Lecture
ON
CRANIAL AND INTRACRANIAL INJURIES.

Delivered at the Royal College of Surgeons of England,

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LECTURE III.

MR. PRESIDENT AND GENTLEMEN,—The subject of Tension, to which my two former lectures were devoted, leads in no unnatural way up to the consideration of Cranial and Intracranial Injuries, for most, if not all, surgeons will be ready to admit that in such cases the evil effects of tension are notably manifested, and that operations undertaken with the object of evacuating either effused blood or inflammatory fluids pent up within a closed cavity such as the skull—that is, for the relief of tension—are of especial service. It is not my intention, however, to dwell at any length upon this aspect of the question, for I have thought it well to use my present opportunity to bring before you some general considerations on the subject of cranial injuries, which I have good reason to believe are neither sufficiently recognised nor generally taught,—and more particularly since these considerations have no unimportant influence on surgical treatment.

As a preliminary reflection, I would emphasise a point which the surgeon should ever bear in mind in all head injuries—viz., that the effects of a force applied to the skull are much influenced by its thickness, and that in this matter there is in cranial bones great diversity. Under these circumstances, a slight blow on a thin skull may bring about a fracture, and no general cerebral injury, since the vibrations originated by the force of impact are expended locally upon the part struck, and are not carried along the bony basal ridges so as to vibrate in the brain structure and bring about mischief. Whereas, whilst a severe external force may fail to cause a fracture of a thick skull, it may start such intense vibrations within the cranium as to cause bruising or laceration of the brain, either of its surface or of its substance, at a point remote from the seat of impact, and even at times produce laceration of the venous sinuses or of the middle meningeal artery. In the former case the injury on the face of it looks severe; whereas it may be comparatively trivial, since there is no cerebral injury. In the latter instance the injury may appear slight, although in reality it is one which bodes death from cerebral mischief.

To say that injuries of the head should always be estimated *primarily* with reference to the amount of damage the cranial contents have sustained, and *secondarily* with reference to the risk of their becoming involved, is to say what all sound surgeons of experience believe and make the basis of their treatment. And yet students are taught to think that scalp wounds, fractures of the skull, hæmorrhage beneath the bone, concussion and compression of the brain, and inflammation of the brain are separate and independent affections, with diagnostic symptoms which can be tabulated. The surgeon, however, who goes to the post-mortem room for information, knows too well that in every case of cranial injury of any importance there are certain brain changes common to most, if not all, which should be fully recognised and taken into account in its diagnosis, prognosis, or treatment; and that, should either a fracture, with or without depressed bone or intracranial hæmorrhage, coexist in the same case, such a condition had better be regarded as a complication of the common factor rather than as one which stands alone. For example, a man falls or receives a blow upon the head, and is for a time "stunned"—that is, rendered more or less senseless from paralysis of brain function; he is said to be suffering from "concussion of the brain," whatever that term may mean. Another man, as a result of the same kind of accident, receives in addition to the "stunning" a scalp wound, with a fissure either in the vertex or base of his cranium; and he is described as one who is suffering from a compound fracture of the skull, either of the vertex, base, or of both. A third man comes under observation in the same state of so-called concussion, but with a depressed fracture of bone, complicated or not with a scalp wound, and as a result of this depression there may or may not be other symptoms, or those present may be intensified. Under either circumstance, however, his case is described as one of depressed fracture of the skull, giving rise to compression of the brain. Yet in all these different classes of cases there is one common injury, one common source of danger, present or remote—viz., the condition of the brain which is associated with the injury, and which has been brought about by the "stunning" force. If the general cerebral injury be trivial, the local complication of a scalp wound, or even of a fissured or depressed fracture, is, although serious, comparatively unimportant; if it be of a grave nature, the local complication must, however great, sink into insignificance.

What, then, it may be asked, is the condition of a brain in a state of so-called concussion? Let us inquire. Concussion of the brain means, in a physiological sense, a sudden and more or less complete arrest of the brain's mental and physical functions, brought about by external violence. The brain in its bony case has been made to vibrate more or less roughly either by some general shake of the whole frame, or by some local violence applied directly or conveyed indirectly to the cranium as a localised or diffused force, the effects of this force upon the brain being of necessity proportional to its concentration and intensity, and in a degree to the age and healthiness of the brain structure and the thickness of the cranial wall. Thus, a concentrated blow with a blunt or edged instrument, probably, and in a thin skull certainly, spends its force in producing a local cranial or cerebral injury; whereas, any force of a diffused nature, directly or indirectly applied, and whether causing a fracture of the cranium or not, more likely brings about some structural change in the cerebral tissue, remote from, rather than at, the seat of impact. And should the brain or its vessels, in either case, have undergone senile or any morbid change, it is more prone to suffer seriously from such external violence than a healthy organ. In every case, therefore, of injury to the head, the brain is made to vibrate more or less forcibly; when the vibrations are feeble, the injury to the brain structure resulting therefrom is but slight; when they are severe, the mischief may be great. The complication of a fissure or fracture of the skull does not of itself, of necessity, tend to aggravate the cerebral mischief; although its presence may be regarded as a measure of the force which has brought it about. In all cases of cranial injury, therefore, the conclusion is clear that the cerebral mischief is the common factor, and the one important point to be taken into account.

This conclusion consequently leads to the important question, What are the changes found in the brain after so-called concussion of its substance, or rather shaking of its structure? What are the structural changes, if any, which can be made out on the post-mortem table? For, of course, an answer to these questions can only be given from the observation of cases which have proved fatal, either directly from the injury, or at some remote period after the injury from other causes. Happily, the answer to this question is neither difficult nor uncertain. For I may say that at Guy's Hospital for at least a quarter of a century there was no case of head injury examined—and such includes every case—in which there was not some coarse brain lesion found, readily visible to the naked eye; in which there was not some contusion of the brain surface, laceration of the brain either upon the surface or within its substance; or more or less hæmorrhage upon or into the brain. In fact, concussion, in a pathological sense, has been, in my experience, synonymous with contusion or laceration of the brain. Other surgeons have expressed the same opinion from this chair. Sir Prescott Hewett, thirty years ago, said: "In every case in which I have seen death occur shortly after, and in consequence of, an injury to the head, I have invariably found ample evidence of the damage done to the cranial contents." Mr. Hilton, who followed him, wrote: "We ought to consider a brain which has been subjected to concussion as a bruised brain." And Mr. Le Gros Clark, who lectured later, stated: "I have never made or witnessed a post-mortem after speedy death from a blow on the head where there was not palpable

physical lesion of the brain." Neudorfer, of the Austrian army, declares that he has never seen concussion, as so-called, since in all cases he has examined cerebral injury was found to exist. And Fano, a celebrated French surgeon, has also come to the conclusion "that the symptoms generally attributed to concussion are due, not to the concussion itself, but to contusion of the brain or to extravasation of blood." In fact, all authorities now agree that, when death follows a severe shaking or concussion of the brain, contusion, bruising, or laceration of the brain is invariably present, and that when this is not found, the death is probably to be ascribed to some other than a cerebral cause; and I shall be able, later on, to show that when death does not take place as an early result of the damage, and the patient either dies of some other affection or of some remote consequence of the injury, the same evidence of cerebral contusion is generally present. When extravasation of blood upon or into the substance of the brain follows "concussion," or rather vibrating injury, it is to be explained in the same way—that is, by some injury done to the vessels of the brain itself, or to the venous sinuses within its membranes. When due to the bruising of the brain itself, the seat of injury is probably found on the side of the brain opposite to that of the cranium which received the blow; the bruising being brought about by what is rightly termed "contrecoup." A fall or blow upon the occiput is, as a rule, followed by some bruising of the anterior cerebral lobes; one upon the frontal region, by a bruising of the posterior parts of the brain; whilst lateral or vertical blows are felt more by the middle lobes. In severe vertical blows the base of the brain itself is bruised. The amount of extravasated blood depends upon the degree of force applied and the healthiness of the vessels in the injured part, diseased vessels easily giving way under a vibrating force to which the healthy would not yield. When the extravasation of blood is upon the surface of the brain, it is either within the cavity of the arachnoid or the meshes of the pia mater; and under each condition the blood gravitates to the base. When the extravasation of blood takes place into the structure of the brain, it may be found in any part of the cerebrum, cerebellum, pons Varolii, or even in the ventricles, the extravasation rarely showing itself in the form of one large clot, but commonly in small and numerous spots of extravasation, which cannot be wiped away, as if from small vessels.

Thus I found in one case of so-called concussion, in which the fatal result took place sixty hours after the injury, from changes brought about by the severe shaking of the brain, unassociated with fracture, that the brain was bruised all over, and blood was effused at the injured spots; the fluid in the ventricles was blood-stained, and the ventricles themselves ecchymosed.

In another case of death from "concussion," without fracture, the result of a fall, in a man aged thirty-one, on the fifteenth day after the injury, in whom convulsions and coma supervened, a layer of blood was found universally diffused over both hemispheres, dipping between the convolutions, and passing downwards towards the base. The clot, which was shreddy and of a dull reddish-black colour, had evidently been effused for some days. The surface of the brain beneath the seat of injury was softened; and at the base, where it had been damaged by contrecoup, similar changes had taken place. The vessels were healthy.

In a third case, where death followed from "concussion," and the vessels were diseased, multiple extravasations were detected after death throughout the substance of the brain.

A fourth case was that of a man (C. K——) aged sixty-five, who came under my care with a scalp wound over the left half of the occipital bone and noisy delirium, having just previously fallen out of a truck on to his head. He had no paralysis or special head symptoms. The pupils were natural; the pulse was 70, and the temperature 99·2°. He became rational in twenty-four hours, but only remained so for a day, when noisy delirium returned, with refusal to take food. This condition lasted for fourteen days, when he sank, although food was regularly and carefully given by the œsophageal tube. After his death on the sixteenth day from the fall, the anterior lobes of the brain, with the fore parts of the middle lobes, were found much bruised and covered with extravasated blood.

And in a fifth case—that of a man aged thirty-five, who came to Guy's on March 31st, and died on April 1st, 1882, about fifteen hours after the accident—blood was found extravasated over the whole surface of the brain beneath the membranes, and the brain itself was much ecchymosed in fine points. The third and fourth ventricles were full of blood clot. There was laceration of the fornix and right optic thalamus, and no other lesion. The man had fallen on his head when jumping off a van, and given himself a scalp wound, exposing the bone, to the left of the occipital protuberance. He walked into Guy's, and complained only of headache and a feeling of sickness. He refused to stay in the hospital, and left. Having walked 200 yards, he vomited, and his friends gave him a "small soda." He then vomited again, and being unable to stand he was brought back to Guy's, where he was admitted insensible and comatose, and died, as already stated, fifteen hours after his fall.

When fissured fractures of the cranium complicate brain injuries, and these fractures are the result of some diffused force, the cerebral mischief is not likely to differ from that which has been just described, although, as the force to produce a fracture may presumably be greater than that which fails to do so, the intracranial injuries may be greater from the cerebral vibration. In some cases the brain itself may, in addition, be bruised at the seat of impact. On the other hand, where the force which produced the fracture is concentrated or the brain-case thin, there may be more of local brain injury at the seat of fracture, and less of distant mischief from brain vibration. And with the fracture there may be certain special complications, such as depression of bone with or without compression of the brain, injury to the dura mater, membranes, or brain from the fractured bone or external force, and extravasation of blood between the dura mater and the bone from rupture of the middle meningeal artery or some venous sinus. But all these are complications of, and additions to, the general injury. It must not be forgotten, however, that in exceptional cases a fracture of the skull may take place from a concentrated local violence without producing any cerebral disturbance, particularly over the frontal region.

To prove still more conclusively that "concussion" of the brain means bruising or laceration of the brain, with more or less hæmorrhage, I propose to bring before you the particulars of some cases which have been examined at Guy's Hospital after death, at more or less remote periods after the receipt of the head injury; and which died from either an independent affection or some remote results of the injury. Such cases are not numerous, but they are valuable, at any rate, for my present purpose. I trust I shall not, therefore, prove wearisome in reading brief abstracts of some of them.

CASE 1. *Cerebral injury; marked evidence of old bruising of the brain found.*—A powerful middle-aged man was found by a policeman in the Borough Market sitting down in a fainting condition. The policeman gave the patient some brandy-and-water, and brought him to Guy's, where he soon became comatose and died. One of his friends said that he had received an injury to his head some weeks (?) previously. After death no external signs of injury could be made out, and there was no fracture of the skull. The anterior and middle lobes of the left hemisphere of the brain were adherent to the base of the skull. The base of the anterior lobe showed brown discolouration from old bruising, and the middle lobe was so firmly adherent to the bone that it tore away. "These changes," wrote Moxon, who made the examination, "could not have been less than several weeks old, probably at least three months." There was a large effusion of recent blood clot (two ounces) over the right side of the brain. There was no blood in the brain, and no lesion of its membranes. The viscera were healthy.

CASE 2. *Cerebral injury complicated with fractured base of cranium thirty-eight days before death; bruising of the brain.*—David E——, aged nineteen, came under my care on June 24th, 1874, having fallen off an omnibus on to his head. He was admitted into the hospital, partly unconscious, with profuse bleeding from his *left* ear, which lasted for two days, and was followed for another eight days by the escape of a clear fluid (cerebro-spinal). On the second day after the accident the facial nerve became paralysed. The man died on the thirty-eighth day from broncho-pneumonia, having lost all his brain symptoms, except the facial paralysis. On examination of the body, a fracture was found in the skull, across the petrous portion of the left temporal bone, from the turn of the lateral sinus groove behind into the middle fossa, laying open the tympanic cavity. There was no trace of repair in the fracture.

The olfactory bulb on the *left* side was gone, and the brain about it was bruised. The central parts of the brain were soft.

CASE 3. *Cerebral injury complicated with fracture of the base of the skull twelve weeks before death; evidence of bruised brain* (Preparation in Guy's Museum, 1084[55]).—William B——, aged forty-six, came under the care of Dr. Hilton Fagge in 1873, with vomiting after food and pain over the pylorus, which proved to be due to abdominal cancer. He had been an epileptic for four years, and during that time had been growing darker. Five weeks before admission, after a fall on the head from a ladder, he became insensible for a brief period, and blood oozed from his *right* ear, mixed with some watery fluid, which continued to flow for two days. All head symptoms disappeared, although he occasionally lost himself during his illness. He died from abdominal cancer. After death, a fracture of the base of the skull, crossing the petrous portion of the right temporal bone, and running the whole length of the meatus auditorius externus, was found. The under surface of the two anterior lobes and of the points of the left middle lobe of the brain presented a tawny yellow discolouration, clearly the result of blood effusion at the time of the injury, and, as usual, it was more marked on the side opposite to that of the fracture. There was also a little superficial softening of the cineritious substance.

CASE 4. *Cerebral injury six weeks before death, followed by abscess.*—William D——, aged thirty, was admitted into Guy's with pleuro-pneumonia, in a condition which soon ended in death, in March, 1873. Six weeks before his admission a beam had fallen upon his head, hurting him, but not producing any marked head symptoms or any bleeding from the ears or nose. Indeed, he had not given up work, but continued as an engineer's labourer for four weeks—that is, up to two weeks before admission, when he felt ill, shivered, and had severe headache; he also soon lost his taste for sweet things. When admitted he had no paralysis, only headache and drowsiness. His temperature was normal. He had no convulsions. After death the brain was found, on removal of the skull-cap, to be flattened, so that it appeared to have no convolutions. Its surface was discoloured in parts from what proved to be abscesses. A large and rather old abscess had burst into the hinder part of the right lateral ventricle, filling it with pus.

CASE 5. *Cerebral injury complicated with fractured skull and spine, &c.; death ninety-one days later* (Preparation in Guy's Museum, 1084[52]).—George G——, aged twenty-seven, came into Guy's Hospital, under the care of Mr. Forster, in July, 1882, having fallen or been thrown out of a third-floor window. He was conscious, and complained of pain in his back. He had a scalp wound over the occiput, and evidently a fracture of the occipital bone. His lower limbs were paralysed from a fractured spine. The patient died of pleurisy. At the necropsy a fissure was found in the right half of the occipital bone, which extended vertically across the root of the petrous portion of the right temporal bone towards the lesser wing of the sphenoid. In the posterior cerebellar fossa there were two offsets, one of which ran down to the foramen magnum. There were but feeble signs of repair in the fracture. The brain at the right anterior lobe was much bruised. There was blood between the bone and the dura mater, and on the inside of the dura mater there was much brown pigment. The eleventh dorsal vertebra was fractured.

CASE 6. *Cerebral injury six months before death, brought about by meningeal apoplexy; marked evidence of old cerebral injury.*—Patrick H——, aged forty-one, was admitted into Guy's Hospital, under Dr. Pavy, in March, 1874, in a comatose condition, and soon died. He had been drinking for some days before, and had had a fit. Six months before, or thereabouts, after a fall down some stone steps, he was brought into the accident ward with a bruise over the right mastoid process and discharge of blood from the right ear. He was partially insensible for ten days, and was stupid for some time after. His pulse ranged from 40 to 50. He left convalescent and returned to his work, at which he continued until he had the fit for which he was readmitted just before his death. At the necropsy no injury of the cerebral bones could be discovered. The dura mater over both sides of the brain presented on its inner surface a tawny red colour, apparently stained with old extravasated blood. That covering the left hemisphere was smooth, but that over the right was in part lined with adherent coagulum which in some parts was of a brownish colour, in others black. Some of it was evidently old. This was part of a large mass of coagulum which lay between the dura mater and the brain, on this side flattening the brain. The surface of the brain was so discoloured from staining with blood that the amount of clot was difficult of determination. The brain had evidently been deeply bruised at the time of injury at the inferior surfaces of both anterior lobes and the summit of the right middle lobe, particularly towards the back of the lateral surface of the right hemisphere, where there was an irregular fissure, with much tawny discolouration of the tissue. The lateral ventricles were healthy. The large effusion of blood clearly came from the rupture of the vessels of the softened part, and was probably in part due to alcoholic stimulants.

CASE 7. *Cerebral injury thirteen months before death; marked evidence of brain injury.*—George L——, aged twenty-two, was admitted into Guy's Hospital under Dr. Habershon in February, 1871, in a semi-torpid condition, having been found by a policeman in a fit after a day or more of drunkenness. He could be roused with difficulty, and when roused moved all his limbs. He had right facial paralysis. His pulse was 44; the pupils were contracted. He gradually sank. He had had a severe injury of his head thirteen months previously, from which it was supposed he had recovered. After death no signs of injury of the cranial bones were discovered. The brain was flattened, and the anterior and middle lobes were adherent to the dura mater at the base, and the brain tore away when an attempt was made to remove it. The membranes of the brain at the base were very thick, and partly opaque white, partly of an ochre-yellow colour; this appearance was confined to the membranes. The aperture into the fourth from the third ventricle was closed by some recent lymph, and the brain bordering the channel was soft. The lateral ventricles were greatly dilated, the descending cornu on the left side projecting like a blister at the base of the brain. The left middle lobe was diffluent.

CASE 8. *Cerebral injury two years before death from phthisis; marked evidence of bruised brain.*—Wm. C——, aged fifty, came into Guy's Hospital with phthisis, under the care of Dr. Moxon, in 1874, and died within a few days. He was a sailor, and had enjoyed good health up to two years previously, when he had a high fall, and was stunned and bled from his left ear. The next day hot fluid came from the ear. He was laid up for three weeks, and when he left his bed he was giddy for nearly one year. He returned to his work, although deaf in his left ear. Five weeks before his admission he "caught a cold and cough," and died of acute phthisis. At the post-mortem examination no clear indication of fracture of the petrous portion of the left temporal bone could be made out, although there was a slight transverse line across the bone. There was an old bruise of the anterior lobe of the brain on the left side and slightly of the base of the middle lobe. That on the anterior formed an irregular hollow the size of a shilling. The grey substance was quite destroyed, and microscopically was found to present hæmatoidin crystals and compound granular masses.

CASE 9. *Cerebral injury complicated with fracture of the base of the skull on the right side eight years before admission, followed by fits, chronic hydrocephalus, spinal curvature, emphysema, and hydrothorax; marked evidence of old bruising of the brain.* (Preparation in Guy's Hospital Museum, 1084[56]).—David W——, aged thirty, was healthy until eight years before admission, when he fell off a ladder and hurt his head. Since then he had not been able to do hard work, and his memory had failed him. Five years ago he had a fit, and others had followed. He was admitted under Dr. Wilks in 1876, in a fit, comatose, and passing urine under him; but he gradually recovered sensibility in a few days. In the hospital he had a fit, and both sides of his body were convulsed; when consciousness returned, it was found that the *left* side of his body had diminished sensation, but he said this had existed for eight years, and was gradually growing worse. He was fairly intelligent, and answered questions readily. His pulse was slow, 38 to 40. He died of bronchitis. At the necropsy the brain was found to be flaccid. At the base of the right middle fossa, and over the roof of the orbit there was a layer of brown pigment; also in the posterior fossa. The same pigment existed in patches over the base of the brain. There were fourteen ounces of fluid in the ventricles. The brain substance was healthy. The foramen magnum was

altered in shape, and narrowed antero-posteriorly, the transverse diameter being much larger than the other. There was fracture of the right side of the base of the skull. The spine was curved at the sixth dorsal vertebra towards the right. The cord was healthy. The lungs were emphysematous; fluid existed in the left chest.

CASE 10. *Cerebral injury complicated with fracture of the skull nine years before death; evidence of old as well as of recent brain injury.*—Michael L——, aged fifty, came under Mr. Cock's care on Dec. 29th, 1867, and died on Jan. 7th, 1868. He had fallen twenty feet on to the side of his head, and was admitted with a scalp wound and depressed fracture to the left of the vertex. He was unconscious on admission, but not paralysed, and was never clear enough to give a history of his accident. One of his friends stated that he had had an injury to his head nine years previously. After death the cranial bones were found to be thin. On the occipital base about the left part of the groove for the torcular Herophili were *fine* rough elevations, and here the dura mater was very adherent. About this part there was an old depressed irregular fracture of the bone, the bone being now united to the rest. Within the skull there was an elevation corresponding to the external depression, and its edges were bevelled off. There was no sign of any old external wound over the fracture, or of blood between the bone and dura mater; but on opening the latter about an ounce of liquid clotted blood was found effused over the left vertex, corresponding to the recent scalp wound. The right anterior lobe of the brain was adherent over the orbit, and the brain here was discoloured brownish yellow, as from old hæmatoma, this part corresponding to the spot of contrecoup from a blow on the left back of the head.

CASE 11. *Cerebral injury complicated with fracture; evidence of brain bruising, recent and old.*—Michael W——, aged fifty-three, came into Guy's Hospital, under Mr. Cock, in February, 1867, and died in two days. He was found in the street insensible, with a wound on the back of his head and bleeding from both ears, but chiefly the left. He died comatose. At the necropsy there was clear evidence of a heavy blow having been given over the right mastoid process, the bone at this part being fractured. There was no blood between the bone and dura mater at this part, but there were about two ounces between the dura mater and the brain. There were *recent* contusions on the anterior and middle cerebral lobes, and *old* yellow discolouration of both middle lobes. The right one was firmly adherent to the middle fossa outside the foramen ovale. Lining the dura mater of the right middle fos a of the base of the skull, there was a thin membrane, easily separable; and this was thickest where the brain was adherent. The right middle lobe was more deeply bruised than other parts, where it was fixed to the fossa.

CASE 12. *Compound fracture of the cranium, with marked brain symptoms, occurring three years and a quarter previously; necrosis of the inner table of the skull; removal of the bone by trephining; death from phthisis; evidence of bruised brain and extravasation of blood.*—Conrad H——, aged forty-five, came under my care in January, 1879, with a discharging sinus on the right side of the occipital protuberance, communicating with the interior of the cranium, which had been the result of a compound fracture of the skull he had sustained three and a quarter years previously. The injury was brought about by a blow from a large stone, which stunned him, and he remained unconscious for seventeen days. He was abroad at the time, and had no treatment. About one year afterwards some pieces of necrosed bone were taken from a second fracture on the vertex of the skull he had received at the same time. He had then some slight weakness of his left side. For the last year the sinus had discharged freely, and he had had much headache. Finding on examination that some necrosed bone could be felt within the cranium in the direction of the internal occipital protuberance, I trephined the bone with an inch trephine, and enlarged the opening with Hoffmann's forceps. Having done this, I removed numerous fragments of the inner table of the skull, corresponding with the lateral and longitudinal sinuses. The dura mater within was thickened, and covered with granulations. The operation gave much relief to his head symptoms; but his lung trouble slowly extended, and destroyed life five months subsequently. After death the repair of the base of the skull was found to be complete, but the bone was thick and irregular. The opening in the cerebellar fossa was only partially closed. The dura mater corresponding thereto was thick. The torcular Herophili and sinuses were healthy. The dura mater covering both cerebral hemispheres was tawny with old extravasated blood; indeed, a thin membranous film could be stripped off its inner surface. The summits of the middle lobes of the brain at its base showed some tawny erosion, evidently the result of former bruising. The lungs were extensively diseased.

The evidence I have thus laid before you of the pathological conditions of the brains of those who have suffered from what has been so long known as "concussion of the brain" will, I trust, be deemed sufficient to convince such as may be in doubt that they are really examples of cerebral injury; that term meaning cerebral bruising or laceration, with more or less hæmorrhage upon and into the substance of the brain or its ventricles, the amount of injury of every kind varying in degree in each case. In some it may be very slight, and in others severe.

You will likewise have probably observed—what the details of the cases I have brought before you so forcibly demonstrate—the lasting character of the changes which the brain may have undergone as a result of injury, and the evident slowness with which nature performs in this organ her reparative work; for, in some of the cases quoted, years had passed after the injury had been received, and yet marked evidence of its former existence was still present. Indeed, such evidence as I have laid before you of necessity draws out the question, Is a bruised brain ever thoroughly repaired? and are not the changes which the injury may have brought about fixed and permanent? It is to be regretted that an answer to these questions can only be given in an unfavourable form; and that, whilst we may be hopeful as to this complete repair and recovery from a slight injury or bruise, we are bound to regard graver cases in a more serious light, and to deal with them accordingly, since what evidence we possess seems to show that, when any portion of the brain has been severely or moderately bruised, it has been permanently injured. This evidence also dovetails in with the general experience, which tells us not only of the presence of physical head symptoms, but that the mental and moral characters of men are often permanently altered by a head injury.

With these facts and conclusions before us, am I, therefore, wrong in assuming with some confidence that you will see with me the expediency of combining with the term "concussion" that of "injury," and of describing such cases in the future as those of injury of the brain from concussion? The term "concussion" by itself is vague and delusive, whilst that of "injury" is clear and true, and conveys at once a meaning the force of which cannot be misunderstood. The word "concussion" later on may be dropped, and the simple term "injury" retained. With this starting-point, it would naturally follow that fractures of the skull in all their varieties, hæmorrhage into the cranium in all its forms, and compression of the brain, however brought about, will be regarded as complications of the one common and essential factor, cerebral injury, and not, as now, be regarded as separate and individual troubles to be dealt with independently. And even scalp wounds, the result of external violence, would assume a position in the surgeon's mind they ought to have, but have not yet attained; and consequently receive the attention to which they are entitled, not so much perhaps on their own individual account as simple wounds, but as wounds mostly brought about by direct violence applied to the cranium, and consequently liable to be complicated with some contusion of the cranial bone or intracranial injury.

(To be concluded.)

NORTH DEVON INFIRMARY.—Earl Fortescue presided at the annual meeting of this institution, held at Barnstaple on the 21st ult. The report showed that the income during the year amounted to £1551 19*s*. With reference to the insanitary condition of the house, detailed reports had been received from two London firms. The report of the committee was adopted. A motion that the proposed improvements in the ventilation, heating, and drainage be referred to the House Committee, with power to take such steps as they might deem advisable, was agreed to. The convalescent home, instituted and endowed by two generous donors for the benefit of North Devon, in connexion with the infirmary, is nearly completed.

Lecture
ON A
CASE OF RUPTURED TUBAL PREGNANCY.

Delivered at Queen's College, Birmingham,

BY LAWSON TAIT, F.R.C.S.,
PROFESSOR OF GYNÆCOLOGY.

GENTLEMEN,—The preparation which I now pass round was removed by abdominal section this morning from a patient, aged twenty-seven, residing at Ilfracombe, and it illustrates a new point in the pathology of ruptured tubal pregnancy, most of the facts of which, as known to me, have already been brought under your notice. The patient in question was twenty-seven years of age, had been married six years, and had never been, so far as she knew, pregnant, this being not unfrequently a leading feature of these cases. She had menstruated with perfect regularity until Christmas, then she had missed till March, and during the whole of that time she had been confined to bed with what was called inflammation of the womb, and was attended during that illness by a well-known practitioner in Liverpool. At the beginning of March she had so far recovered as to be able to get up for a short time, but on the second day of her getting out of bed she was suddenly seized with acute violent pain, and was kept in bed again for three weeks with what she said to be, and what clearly was from her description, an attack of acute peritonitis. Early in April she returned home to Ilfracombe, and was then seen by Dr. Slade King, who recognised the fact that there was a tumour on the left side of the uterus. In April she had an attack which she described as being very like a recurrence of the peritonitis that she had in the previous month, and there have been two or three attacks since then more or less severe. She has menstruated twice for a fortnight each time, the loss being very profuse and the pain extremely severe. When I saw her on July 4th, she was emaciated, in constant pain, quite unable to get about, and evidently suffering from the presence of pus in the pelvis. Examination revealed a tumour quite as large as a fœtal head on the left side of the pelvis, fixed and extremely tender to touch. Such a history gave no clue whatever to what proved to be the real nature of the case; for even the suspension of the menstrual flow from January till March was precisely what might have occurred in a case of hæmatocele of the broad ligament, or in several other conditions which might have been referred to as an explanation of this case. Certainly, in the minds of those who gave the history the suspicion of pregnancy had never been entertained, and my own diagnosis did not include a differential suggestion in the direction of tubal pregnancy; it was given as that of suppuration of the left Fallopian tube. That diagnosis proved to be perfectly correct so far as it went; but, to be complete, it ought to have been extended to include suppuration as the result of ruptured tubal pregnancy. Such an extension, however, with the facts before me, did not occur to me.

The state of the patient was such as to demand immediate interference, and therefore I opened the abdomen and found a state of matters the details of which were easily ascertained, and were as follows. The omentum was glued over the contents of the pelvis, and I had a little difficulty in detaching its fringe from the base of the bladder. After I had done so I found several coils of intestine adherent below it, and on removing these I at once opened up a cavity, from which escaped a quantity of extremely fetid purulent fluid. This cavity was as large as a Jaffa orange, and the first thing that I came in contact with was a large mass of easily detached substance, recognised at once by my fingers as a piece of placenta. I removed it, and the naked-eye appearances confirmed what I had uttered about it before I removed it. I then easily recognised that the cavity from which I had taken it was formed of the dilated and distended Fallopian tube, forming the anterior, posterior, and lower walls of the cavity, whilst the upper part was composed of the coils of intestine and omentum, which I had partly detached. All round the cavity I could feel a number of sharp, hard points, and these I easily recognised as fœtal bones embedded in the walls of the cyst. I removed as many of them as I could, and found that they were what I had believed them to be, for included in what I removed were a number of fœtal ribs and flat bones. I then proceeded carefully to detach that part of the cyst formed by the Fallopian tube, and when I had done so I tied the pedicle and removed what you now see before you. The presence of fimbriæ proved conclusively the accuracy of my supposition.

We have here, then, a case of the greatest possible interest, for it proves what certainly has not been completely established up to the present time, that rupture of a tubal pregnancy into the peritoneal cavity may not be fatal at the time of rupture by reason of recurrent hæmorrhage. There is one case quoted by Campbell, and originally narrated by the late Mr. Samuel Hey of Leeds, in which I think it is possible to accept this conclusion as very nearly proved; but the difficulties of a certain diagnosis of ruptured tubal pregnancy are so great that without the complete proof, which can be obtained only from a post-mortem examination or an abdominal section, it is very easy to throw doubt upon any such record. Here, however, we have absolute proof of the occurrence of tubal rupture into the peritoneal cavity, not only without a fatal issue at the time, but apparently without the occurrence of hæmorrhage. It is probable, however, that such cases are very rare. Without this fatal incident of hæmorrhage it is not difficult to believe that the whole contents of the tube may be absorbed by the peritoneum, as the fœtus was in process of being absorbed in this instance; and but for the occurrence of suppuration, it probably would have been so completely absorbed in a few months that no trace of its existence could have been recognised. The facts, however, that in nature's own process of cure an interruption by suppuration occurred, leading to such extreme peril that the patient escaped narrowly at least three times from peritonitis, and that if she had been left alone long her death from the recurrence of this trouble would have been absolutely certain, shows completely that it is not safe to leave these cases to a natural termination.

It is impossible to imagine that the Fallopian tube could ever have resumed its functions after being submitted to such an accident as this, and it is not difficult to believe that for months after, if not for years, it would have continued liable at any moment to the suppurative process which you see here had taken place. The patient has made an easy recovery, and under these circumstances, and with a growing experience of the small fatality resulting from this operation, I unhesitatingly recommend the removal of the Fallopian tube, together with the remains of the pregnancy, in every instance. The further interest of the case is that I am bound now to add another subdivision to the scheme of ectopic gestation which I have already submitted to you, and therefore I give you the amended table, as follows:—

Scheme of Ectopic Gestations in Tubo-ovarian Tract.

1. Ovarian; possible, but not yet proved.
2. Tubal, in free part of tube; and is—
   - (*a*) Contained in tube up to the fourteenth week, at or before which time *primary* rupture occurs, and then the progress of the gestation is directed into—
   - (*b*) Abdominal or intra-peritoneal gestation, uniformly fatal, unless relieved by abdominal section, primarily by hæmorrhage, secondarily by suppuration of the ruptured sac and peritonitis.
   - (*c*) Broad ligament or extra-peritoneal gestation.
   - (*d*) May develop in broad ligament to full time, and be removed at viable period as a living child.
   - (*e*) May die and be absorbed as extra-peritoneal hæmatocele.
   - (*f*) May die, and the suppurating ovum may be discharged at or near the umbilicus, or through the bladder, vagina, or intestinal tract.
   - (*g*) May remain quiescent as lithopædia.
   - (*h*) May become abdominal or intra-peritoneal gestation by secondary rupture.
3. Tubo-uterine or interstitial is (*a*) contained in the part of the tube embraced by uterine tissue, and, so far as is known, is uniformly fatal by intra-peritoneal rupture (as *b*) before the fifth month.

The above scheme gives a complete consistent story of the pathology of ectopic gestation, so far as I know it, and it certainly removes an enormous amount of the confusion which has hitherto existed concerning it, and many of the difficulties encountered in the treatment.

ON A GROUP OF CASES OF LIVER DISEASE.[1]

BY R. W. BURNET, M.D., M.R.C.P.,
PHYSICIAN TO THE GREAT NORTHERN CENTRAL HOSPITAL.

CASE 1. *Abscess of liver opening through the right lung; tapping, followed by temporary relief.*—J. G——, a sailor, aged forty, was admitted into hospital, complaining of pain in the right side, and a general feeling of illness, with loss of appetite, of flesh, and of strength. His family history was exceptionally good. He had been at sea for twenty-seven years, and his health had been good; but ten years before his present illness commenced he had had fever in Calcutta, and did not fully recover until his return to England. His general health remained satisfactory after that until six months before his admission, when he became ill on a voyage from Calcutta to Natal; the symptoms were malaise, pain in the right side, and swelling of that side. He was admitted to hospital at Durban, when, in addition to the symptoms mentioned above, distinct enlargement of liver was found. There was no jaundice.

On admission his condition was as follows. A thin wasted man, with bad colour, but no jaundice. Temperature 102°; pulse small and quick; respiration slightly hurried; appetite very bad, but no pain after food; breath slightly foul, and bowels constipated; occasional rigors and frequent chilly feelings, with perspirations. On examination, there was apparent bulging of the right side (not actual by measurement), and the intercostal spaces were not so well marked as on the left. No pain on pressure over the hepatic region, except just at the margin of the ribs or slightly below, where pressure gave rise to pain; over the small area of the liver there was slight crepitation. Examination of the lungs elicited no marked symptoms, except a little creaking leathery sound heard near the spine on the level of the ninth dorsal vertebra. A few days later all these symptoms had increased; the patient was weaker; the right side full, measuring an inch and a quarter more than the left; the area of liver dulness increased, and the extent over which friction was present was also greater than before. At the base of the right lung there was friction, and crepitations were also heard. A small aspirator needle was inserted in the nipple line between the fifth and sixth ribs. About half a pint of thick purulent matter was slowly drawn off. The effect of this was to relieve the patient to some extent. The pain disappeared and the temperature fell, but he remained very weak and took food badly. During the weeks succeeding this the patient barely held his ground as regards strength; the lung symptoms increased, and the temperature oscillated between 99·5° and 103·8°. The base of the right lung became dull to just above the angle of the scapula, and breath sounds in the dull area were inaudible. The temperature rose frequently to 103°, and there was much sweating. A troublesome cough came on, with some expectoration. On microscopic examination of the sputum, it was found to consist of pus cells and mucus, decomposing matter, pieces of elastic tissue, probably from the larger tubes, but some few curved pieces also. The odour was very offensive. A few days later aspiration was again resorted to. Two punctures were made, one in the nipple line four inches below the nipple, and the other more to the outside. Only a small quantity of blood came away. The patient gradually sank, and died a week after this.

Necropsy.—Body emaciated; cadaveric rigidity disappearing; no deformity or unsymmetrical swelling visible; muscles red and healthy, though small; some costal cartilages calcified. On opening the chest and abdomen, the liver, stomach, and intestines were seen lying in their natural position. A white, slightly raised spot was found within an inch of the extreme left of the liver, and near its margin. On passing the hand round into the right axillary region, adhesions were found corresponding to the axillary line, but between this and the longitudinal fissure the surface of the liver was somewhat roughened by what appeared to be thin lymphatic exudations. Whilst the lungs and diaphragm were being removed *en masse* it was observed that about a quarter of a pint of fluid lay in the upper part of the right pleural cavity, the lower part being obliterated by close adhesions of the lung to the chest wall. An incision was then made straight through the right lung and liver; this brought into view an enormous abscess filled with greenish tenacious pus. The abscess cavity was about the size of two hands hollowed out and placed together. Except that the left lung, the spleen, and the kidneys were congested, there were no marked changes in other organs. Hardly any traces of the track of the needles could be found; no inflammation was set up by them.

CASE 2. *Abscess of liver; recovery; second abscess, complicated with gall-stones; death.*—A. L——, aged fifty-two, a sailor, had been in the navy for forty years, and had served a great deal on foreign stations. In 1852-3, during the Burmese war, he was six weeks in open boats, severely exposed and without proper food. He had an attack of fever then, but no dysentery. During the Crimean war he was in the Sea of Azof, and again had fever. He served up country during the Indian mutiny, when he had fever and dysentery. Five years later he had an illness which was called congestion of liver, brain, and lungs. He recovered, and subsequently served for a year in the Gulf of Mexico, where he had frequent attacks of fever. On his return home it was thought that he had abscess of liver, but the symptoms passed off. A month later, however, they returned, and at the crisis of that illness he passed some curious sand and matter, but no gall-stone was found. When seen by me eight years later, the symptoms pointed very clearly to hepatic abscess, but there were also strong suspicions of gall-stone. No operative interference was permitted, and the patient gradually sank. A limited post-mortem examination was all that could be obtained, and a large abscess was found in the upper and back part of the liver.

CASE 3. *Diffuse suppuration in liver; blocking of bile ducts; hypertrophic cirrhosis; growth surrounding opening of common duct into duodenum.*—W. P——, aged forty-seven, was admitted into the Great Northern Central Hospital under my care on Jan. 27th, 1888. He stated that he had been healthy up till Christmas, 1886, when he began to feel out of health, and in September, 1887, he was admitted into this hospital with jaundice, which had been coming on for about nine months previously. He had been a beer drinker, but not to excess. Had been a baker by trade, and never lived abroad. The notes state that when in hospital at that time he was jaundiced; his liver was enlarged, smooth, and uniform, with no tenderness on pressure; the temperature was usually normal, but on one occasion reached 102°. He had no rigors and no perspirations. He improved very much in health, and on leaving the hospital he returned to work, at which he was able to continue till the beginning of January, a few weeks before his readmission. He then began to suffer from headaches, loss of appetite, sickness, and a return of jaundice.

On admission, he complained of pain in the right hypochondrium, want of appetite, with nausea, vomiting, and great weakness. A week previously he had had a rigor, and a daily return of this symptom. The patient was very thin, intensely jaundiced, and very weak. While undressing in the ward, a rigor came on, and the temperature rose to 104°. On examination, the abdomen appeared somewhat fuller in the right hypochondrium than in the left, but there was no fluctuation. The edge of the liver could be felt half an inch above the umbilicus. There was slight tenderness on pressure, and the most tender spot was at the edge of the right rectus, an inch from the umbilicus. He had several shivering fits, but no rigor for some days after his admission, and it was then noticed that there was a tender spot just below and to the right of the umbilicus, where there was also a suspicion of deep fluctuation; this tenderness became more marked, especially towards the right side, and the temperature continued to oscillate between 99° and 103° or 104°. It was decided to puncture with the needle of an aspirator. Gas and ether were administered, but, as the patient did not take ether well, chloroform was given, and the needle inserted about two fingers' breadths below the ribs inside the nipple line, in the directions of backwards, outwards, and slightly upwards, the place of greatest prominence being chosen. At first no fluid was found, but on withdrawing the needle to almost three inches from the surface, blood passed into the receiver, and about six ounces of dark and very rapidly coagulating blood were withdrawn. This seemed to give the patient relief, and the tenderness on pressure disappeared.

[1] A Paper read before the Islington Medical Society, May 22nd, 1888.

Shortly after this the patients had to be removed from the old hospital, and the man went home. He was attended to by a district nurse and readmitted to the new hospital on April 7th, when his condition was as follows. He seemed rather weaker than before; his tongue coated; his temperature 99° in the morning and 102° and 103° in the evening. He had daily feelings of chilliness, but had had only two rigors, one on April 3rd and another on the 5th, lasting three-quarters of an hour, followed by profuse perspiration; no pain in the hepatic region, but some deep tenderness on pressure in the epigastrium and right hypochondrium; motions quite pale, clay-coloured; bowels constipated. There followed a sharp attack of diarrhœa, the skin became of a dark, dusky brown colour, and the patient gradually sank, dying on April 23rd.

Necropsy.—Lungs both rather œdematous and collapsed; very tough. The right side of the heart was slightly dilated and flabby, but otherwise normal. Liver somewhat enlarged, the left lobe more so in proportion than the right, of a dark-green colour, presenting several opaque white spots beneath the capsule. These on section proved to be mainly dilated bile ducts. The ducts throughout were dilated, but more so in some places than in others, being here and there expanded into small abscess sacs, containing thick muco-pus, slightly bile-stained. The liver itself and all other parts of the body were deeply stained with bile. The gall-bladder was dilated, half full of watery bile, and adherent to adjacent parts. On following the common bile duct to its opening, it was found widely dilated; but just at its connexion with the duodenum, and obstructing its opening, was a soft swelling covered with mucous membrane slightly ulcerated on the surface. This growth was about three-quarters of an inch long by half an inch wide, firmly attached to the submucous tissue by well-organised matter. Under considerable pressure the duct was pervious. Examined under the microscope, the contents of the dilated bile ducts and of the sacs were found to consist of pus, broken-down tissue epithelium, and fat. Considerable changes were found in the liver tissue, notably a large increase in the connective tissue; in fact, all the features of hypertrophic or biliary cirrhosis were well marked. The growth at the duodenal end of the bile duct was also very fibrous, but in parts presented a decidedly carcinomatous structure.

CASE 4. *Hydatid tumour of liver; tapping; recovery.*—This patient (G. C——) came as an out-patient to the hospital, and was admitted under my care. The following note was made at the time of admission: "There is a distinct swelling in the epigastrium to the right of the median line, extending for about three inches downwards from the margin of the ribs, and about four inches in transverse diameter. It is regular, uniform, and elastic to the finger; fluctuation can be made out. The patient's right side measures an inch and a half more than the left. His general heath is fair, and there are no other symptoms worthy of note. Diagnosis: a hydatid tumour." The needle of an aspirator was inserted into the tumour, two inches below the last rib and one inch on the inner side of the nipple line. The fluid drawn off was slightly alkaline; specific gravity 1004; it contained large quantities of chlorides and some albumen; under the microscope, cholesterin plates and hooklets. As the tumour enlarged again, the tapping was repeated, forty-six ounces being drawn off. A second time the cyst filled, and a third tapping was done, and happily with the result that the tumour gradually shrank, and the patient left the hospital shortly afterwards. He has since shown himself at intervals of several months, and remains quite well.

CASE 5. *Hydatids of liver, opening into right lung; excavation of whole lower lobe.*—Another case of hydatid tumour I shall merely allude to, as it is published in vol. xix. of the Clinical Society's Transactions. When this patient was admitted under my care at the Great Northern Hospital, there was tenderness on pressure all over the right hypochondriac, epigastric, and left hypochondriac regions; fulness of the right side; increase in the area of hepatic dulness; feeble breathing at the base of the right lung, and dulness extending up to the fourth rib; high temperature and a teazing cough, with little or no expectoration. An exploratory puncture with a fine needle was made in the right axilla between the eighth and ninth ribs, and a little clear serum was withdrawn; further exploration did not seem warranted. The symptoms as above noted continued without marked change for several weeks, when after a violent attack of coughing the patient expectorated a quantity of muco-purulent stuff and a number of undoubted hydatid cysts. Under the microscope, pus, cholesterine crystals, and hooklets were seen. The progress was steadily downward, and the patient gradually sank and died.

At the post-mortem examination strong adhesions were found in the right pleural cavity, firmly uniting the whole lower lobe of the right lung to the chest wall and to the diaphragm. The whole lower lobe of the right lung was converted into an abscess cavity, having free communication with the main bronchus. The lower part of this cavity was in close relation with the diaphragm and the upper surface of the right lobe of the liver, and the cavity extended through the diaphragm into the liver substance. From its appearance this lower part was clearly the original site of the mischief.

In my remarks at the time, I asked the question, amongst others, "What operative interference should have been adopted?" I believed then, and I believe more firmly now, that free opening of the cavity, if it did not actually save the patient's life, would have materially prolonged it, and would have greatly added to her comfort by giving free exit to the hydatid cysts.

Remarks.—I have brought together these five cases because they form a group possessed of some features in common, and yet differing widely in many respects, in order that we may observe them mainly in view of the all-important question of treatment. The first and second are cases of tropical abscess: in one aspiration was practised, but the matter in the end made its way through the lung and into a bronchus; in the other the course was into the bowel at first; both ultimately died. The third, a case of diffuse suppuration, I place there in contrast to the former two. The fourth and fifth—cases of hydatids of liver—are taken as opposites; the former is a type of the simple uncomplicated hydatid cyst; the latter is interesting because of its resemblance in many points to the first case, and because it represents those obscure cases where the mischief, of whatever kind it be, begins in the thick part of the liver, usually high up and far back, and slowly makes its way into the chest, though it is not often that such wholesale destruction of lung tissue takes place as in this instance.

In those comparatively easily diagnosed and straightforward cases where we have a fluctuating tumour in the region of the liver, presumably not an enlarged gall-bladder, I suppose we shall all be agreed that to make an exploratory puncture with a fine needle, just as we should do in the case of fluid in the pleural cavity, is a safe and wise proceeding to aid or confirm diagnosis. If ordinary care is exercised, no harm can come of this, and the nature of the tumour may thereby be at once settled. If the case be one of simple hydatid, and we follow this up by the insertion of a larger needle and withdraw a considerable quantity of the fluid, we may very fairly expect shrinkage of the cyst and the death of its contents without more trouble to the patient. In the instance I have briefly given the cyst refilled twice, but the results above mentioned were obtained after the third tapping, and the patient remained perfectly well.

In another case that came under my care at the Great Northern Hospital several years ago, the patient had been sent up from the country to a special hospital for diseases of women, and, the true nature of the case being recognised, she was transferred to me. The history of the tumour went back some twenty years, and latterly its great size gave her much inconvenience, though she did not suffer very seriously in her general health. Palpation gave one the idea of a hard-walled cyst, and from its age we anticipated some trouble in penetrating the walls. A moderately fine needle could not be introduced, and was felt to grate upon calcareous matter in the substance of the walls, but a larger and stronger one was inserted, and a great quantity of undoubted hydatid fluid was withdrawn. A pad and bandage were applied, and no refilling of the cyst took place. The patient made an excellent and rapid recovery, without a single bad symptom. She left the hospital shortly afterwards, and I have every reason to believe that she has remained well, as she arranged to come back should the symptoms return.

So much for the simple, straightforward cases. But take Case 5. In it we had at first increase in the area of hepatic dulness, but all that could be made out was that the liver was uniformly enlarged or pushed down, and, as the sequel proved, the latter supposition was the correct one. There was here,

then, no indication warranting an exploratory puncture until signs began to show themselves at the base of the lung. A fine needle was then introduced between the eighth and ninth ribs, but only a little clear serum was found. If we had tried again a little later and with a little more boldness, I believe we should have entered the cavity and have been able much earlier to recognise its true nature. A free opening would then have given great relief, and probably the patient's life might have been saved.

We come now to the cases of abscess of liver. In Case 1 the fulness and bulging gave one confidence in aspirating in front, but, considering the distance that the needle had to traverse before reaching the pus, the fact that it did not reach it at all the second time, and the further fact that hepatic abscesses are far more common in the upper and back part of the liver than in any other situation, I should be inclined, in treating another similar case, to enter the aspirator needle from the side or from behind. Unless we have very definite evidences of the tumour making its way to the surface in front, we have a far better chance of striking it from the postero-lateral aspect in obscure and doubtful cases.

His showed that a considerable part of the liver surface—not only what formerly was described as posterior border, but a great part of the so-called under surface—is really posterior. He also demonstrated that part of the left lobe, and the whole of the Spigelian lobe, looks altogether backword, and may, therefore, truly be described as forming a posterior surface. The part of the right lobe lying posterior is from two and one-half to three inches broad, and is non-peritoneal, lying between the folds of the coronary ligament. We may take it that the liver lies behind the cartilages of the sixth, seventh, eighth, and ninth ribs in front, and partly also behind the ensiform, while at the side it is covered by the seventh, eighth, ninth, tenth, and eleventh ribs. Referring again to Case 1, if a puncture had been made in the eighth or ninth interspace, in a direction inwards and backwar ls, we should, in all probability, have emptied the abscess a second time, adding greatly to the patient's comfort and giving him a vastly increased chance of recovery.

As to any danger from the insertion of a needle, the records of large numbers of cases prove that under ordinary precautions of perfect cleanliness it is a perfectly justifiable and safe proceeding, both in pleural and hepatic cases. I have already drawn attention to the fact that in Case 1 no inflammatory action was set up by repeated punctures, and that at the necropsy hardly any traces of the track of the needles could be found. The same may be said of Case 3. There not only no harm but even temporarily relief followed the punctures, and as a means of diagnosis it helped to prove to us that we were not dealing with a large localised collection of matter.

Upper Wimpole-street, W.

ON THE PREVENTION OF BLINDNESS BY THE OPHTHALMIA OF THE NEW-BORN.[1]

BY SIMEON SNELL,

OPHTHALMIC SURGEON TO THE SHEFFIELD GENERAL INFIRMARY.

THE census of 1881 gave the number of blind persons in England and Wales as 22,832, being in the proportion of one blind person in every 1138. It is satisfactory to note that the census of 1881 showed a marked improvement in the ratio of blindness to that of 1851. In the latter year one in every 979 was returned as blind, and if the proportions had remained the same at the last census the number of blind persons would have been 26,523, instead of 22,832, as the census return gives it. This may be fairly considered to have resulted in a great measure from our increased knowledge of eye diseases and improved means of treatment. When, however, it is remembered that a large proportion of these cases of blindness are caused by the ophthalmia of the new-born, which, if properly treated, is curable, and that it is from ignorance and neglect that loss of eyesight has resulted, we should look forward to attaining a greatly reduced proportion of blind people. Somewhere about 30 per cent. of all cases of blindness are estimated as due to this one cause alone. This would give a number of about 7000 out of the total 22,832 returned as blind in the census of 1881 whose blindness is attributable to ophthalmia neonatorum. This is by no means a high proportion. Some authorities give a larger percentage. My own statistics are higher, and I will briefly refer to them.

Since the opening of the Sheffield School for the Blind I have kept records of all the children admitted. In a report on the causes of blindness of the inmates of this institution, as well as the blind *employés* at the workshops,[2] I gave the number of children then at the Blind School as seventy-six. Three were excluded from calculation as not having been seen by me or for some other cause, and the number was thus reduced to seventy-three. In no fewer than twenty-seven of these could the blindness with tolerable certainty be assigned to ophthalmia neonatorum as the cause, and one additional case in all probability so, making a total of twenty-eight, or 38·3 per cent. Since this time up to the close of 1887 twenty new cases have been admitted into the school; in nine of these the blindness is clearly traceable to the same cause. This makes a total of ninety-three children, with one or two exceptions all under fifteen years of age, and no fewer than thirty-seven owe their blindness to ophthalmia neonatorum, or 39·7 per cent. At the time of my report, forty-six blind people were employed at the workshops. Eight of these were already accounted for at the Blind School, reducing the number to thirty-eight. Ten of these became blind through ophthalmia neonatorum, or 26·3 per cent. The smaller percentage in the adults is to be readily accounted for. There were twenty-nine men and nine women. Both sexes would include instances of blindness from causes which more or less only have effect after childhood. But men are much more exposed to accidents—which accounts for several cases of blindness in those now under consideration, and other causes—than are women. The statistics mentioned only refer to those unfortunates who have lost the sight of both eyes. What means have we of calculating the larger numbers of those who are blinded in one eye only, or who have had one or both organs more or less damaged by the disease? The object of this paper is not to discuss the treatment of the disease, but rather to refer to the means by which the ravages caused by it may be lessened, if not obviated.

1. Can the disease be prevented, and by what means? Credé showed in 1881 how the affection was rare among the upper classes, but common among the poor, and was the scourge of lying-in institutions. He entertained no doubt that it resulted during delivery by inoculation with the maternal secretions. Vaginal injections of carbolic or salicylic acid were used before and at the time of delivery; but this served only to diminish, not abolish, the disease. Attention was then directed to cleansing the eyes, and, after employing borax, a 2 per cent. solution of nitrate of silver dropped fnto the eyes immediately after birth was arrived at as the most satisfactory application. The results were as good without as with vaginal injections, and these were therefore discontinued as unnecessary. Credé gives statistics: 13 per cent. before fell to 1 per cent. after the adoption of the method described, and better results have, I believe, since been obtained. Others also have lent support to the efficacy of this method, showing that it is practically an absolute preventive of ophthalmia. The nitrate of silver acts as a specific against the gonococcus.

I was made aware some little time since of a simple preventive plan which has been carried out in the midwifery department of the Jessop Hospital for Women, Sheffield, with signal success. I am indebted to Mr. J. M. Willey, the house surgeon, for kindly supplying me with the following particulars. The patients are among the poorest; some are inmates of the hospital, but the great majority are confined at their own homes. The midwives have received instructions that immediately the head of the child is born attention must be directed to the baby's eyes. Then, with little pieces of lint moistened in clean tepid water, the eyes are carefully washed, as well as the eyelids and parts close adjoining. Subsequently, in washing the child, care is taken to guard against re-infection. During the last three years there have been 2242 labours among the in-patients and out-patients. In the first 200 there were a few cases of purulent ophthalmia, but in the last 2000, since the method

[1] Read before the Yorkshire Branch of the British Medical Association, at Wakefield, Feb. 22nd, 1888.

[2] Brit. Med. Jour., vol. i. 1886, p. 887.

has been systematically adopted, not a single case has occurred. Directions were also given to the nurses that if a child's eyes looked in any way red, it was to be taken at once to the hospital for a drop of nitrate of silver solution (five grains to the ounce), to be dropped into the eye. This has very seldom been required, and, as stated, in no instance in the last 2000 labours has a case of ophthalmia occurred. This plan is remarkably simple, and the absence of any application, such as nitrate of silver, to the eyes renders it very easy of adoption by nurses and midwives. The success which has attended its use at the Jessop Hospital renders it worthy of more extended employment. Its success clearly depends on washing away secretions from and near the eyes before the child has opened them, and before infection has taken place. Strong evidence is thus afforded against the opinion often held, that it is whilst in the maternal passages that infection occurs. This is a point of much moment in the adoption of preventive means against the disease. A recent article by Dr. Ludwig Korn,[3] "On the Prevention of the Blennorrhœa of the Newly Born," is very interesting, because he discusses this question, but especially as he was led to adopt very similar preventive measures to those I have described as being in use at the Jessop Hospital. His experience was gained at the Dresden Clinic for Women. "The method employed was the following. Every woman in labour was carefully cleansed. When possible they were put into a warm bath. After the hair on the genital organs had been clipped, the external parts were washed with soap and irrigated with a solution of bichloride of mercury, 1 in 1000. The vagina was washed out according to Kaltenbach's method with a solution of bichloride, 1 in 3000. In every case which appeared to be suspicious of blennorrhœa I rubbed the mucous membrane of the vagina and cervix with my finger, while the irrigation was made as Cohn recommended. During parturition these irrigations were repeated several times, before and after every digital examination. As soon as the head was born, the eyelids and the portions surrounding the eyes were scrupulously cleansed by means of cotton soaked in hydrant water. And especially all the smegma was removed. We rubbed the cotton from the outer to the inner canthus, continually using fresh pledgets of cotton until the lids were perfectly clean. We particularly tried to prevent any opening of the eyes before this cleansing process was finished." The results were very good. He thought it seemed evident that thus the eyes could not be infected while the child passed through the vagina. The sublimate solution for cleansing the vagina was reduced in strength, and it was only used before and after digital examination. When no examination was made, no sublimate solution was used. In such cases as this, nitrate of silver was formerly dropped into the eye. But, since it was supposed that infection did not take place during the passage of the child, it was no longer used. In all cases, however, every baby born in the institution was washed with simple water as described, without paying any regard to the previous cleansing of the parturient mother. The results were excellent. Three cases of ophthalmia only occurred in 1000 cases; one in the last 700, and not one in the last 420.

2. Cannot something be done to diffuse information as to the curability of the disease, and to enforce the necessity for immediate treatment in those cases in which it has occurred? Dr. David McKeown brought before the Ophthalmological Society, in 1884, a very well elaborated scheme with such an object. He proposed to utilise the Poor-law and birth-registration organisations. The Society adopted with slight modifications these suggestions, and communications were opened with the authorities, and, leading to no result, a deputation waited on the Local Government Board. I am not aware that in England any steps have been taken by the authorities. In Ireland, however, the importance of the matter was brought before the Poor-law medical officers, and also the midwives. But in the absence of such an elaborate scheme much can be done in simpler ways. The Society for the Prevention of Blindness has issued a leaflet entitled "Advice to Mothers who do not wish their Children to be Blind." Other societies have done something as well. To the parents or friends of babies brought to the Sheffield General Infirmary we are not only now giving directions as to the serious nature of the disease, the need for the early treatment which has been too often neglected, and the safety of eyes imperilled or sight lost; but we give them a card which enforces these points, and which they are desired to preserve. The card has very similar but somewhat more brief directions to those suggested by the committee of the Opthalmological Society (Dr. McKeown's), and it reads as follows: "If a baby's eyes run with matter and look red a few days after birth, take it *at once* to a doctor. *Delay* is *dangerous*, and one or both eyes may be destroyed if *not treated* immediately." Dr. Bell has succeeded in securing the voluntary assistance of the registration officers in Bradford, and in this way a slip with somewhat similar instructions to those just mentioned is given attached to the certificate when a birth is registered. This excellent plan may well be imitated. I tried, moreover, some little time since, to obtain the assistance of the St. John Ambulance Association, with its extensive organisation, for the diffusion of knowledge respecting the gravity of this affection. I am sorry I did not succeed; perhaps someone else may do so. There are other ways in which by degrees information may be scattered, and in the end bear fruit; but, in conclusion, I would point out the great help which teachers of obstetrics can render by enforcing on their classes the two lessons this paper has attempted to set forth—viz., (1) That the disease is preventable by the adoption of simple measures; and (2) when it does occur, it yields to treatment if not delayed. To writers of text-books the opportunity and duty are equally great, if not greater, as are also those pertaining to the teaching of midwives.

Sheffield.

[3] Archiv f. Gynæcologie. Translation in American Journal of Ophthalmology for November, 1887.

THE COLOSTRUM CORPUSCLE OF HUMAN MILK.

BY EDGAR BECKIT TRUMAN, M.D., F.C.S.,

SURGEON TO THE SAMARITAN HOSPITAL FOR WOMEN, TO THE NOTTINGHAM AND MIDLAND EYE INFIRMARY, AND BOROUGH ANALYST.

IN November, 1886, I was consulted with respect to the following case.

E. F——, a single woman of twenty-three, had admittedly been confined at full term eighteen months previously. On a day of August, 1886, after a time during which she asserted herself to be pregnant, she showed to those about her a child of whom she declared herself to have been confined in the night. In November she attempted to affiliate this (or another) baby on a gentleman of good social position. She had milk in both breasts, and said that she was suckling the child. The gentleman prosecuted the girl for an attempt to extort money; and I was asked to examine the breast milk microscopically, one of the medical men in the case believing that the presence of colostrum corpuscles in the milk would prove "recent" delivery. The word "recent" being so exceedingly vague, I was asked whether I could furnish any proof that there had been a full-time or nearly full-time labour in the previous three months, this period only bearing on the case. The breasts were somewhat full, the nipples pointing downwards and outwards. By very gentle pressure, milk exuded on either side. This was not like the thin, opaque white milk of a suckling woman, but consisted of two portions: a thick, opaque white curd or cream, and a nearly transparent colourless serum. On microscopical examination there were to be seen numerous colostrum corpuscles, measuring ·0014 of an inch in diameter, surrounded by close-lying multitudes of fat globules measuring ·001 of an inch in diameter, as a maximum. On examining this same slide a few days afterwards, the colostrum corpuscles had disappeared, having fulfilled their life history by their normal termination—viz., bursting,—the burst envelopes being visible.

The inquiry resolved itself into two parts: firstly, to ascertain the significance of the colostrum corpuscle; secondly, to ascertain the usual condition of the breast milk three months after confinement. The literature of the subject is exceedingly scanty. Most medico-legists mention the presence of colostrum in milk as characteristic of "recent" delivery, but dismiss the subject in a few words. Taylor refers to Donné's observations on this point. I have been unable to obtain the original memoir, but have found

a large critique[1] in English, from which I shall proceed to quote. In the course of his article,[2] Donné says that normal milk is a fluid in which spherical globules of fat, and no other particles, are suspended. In colostrum there are some milk globules, but they are irregular and disproportioned; some are large oil drops, and cannot be termed globules; this is imperfectly elaborated butter. The majority of other globules in colostrum are very small, look like dust in the midst of the fluid, and are mostly connected together by viscid matter. In addition to these, colostrum contains particles, some being very small, about one-hundredth of a millimetre (·0004 of an inch) and others many times larger. These are slightly transparent, of a yellowish colour and granular appearance, and are made up of a multitude of small grains enclosed in a transparent envelope. They are not soluble in alkalies, but disappear in ether. This condition of milk is almost unchanged till the termination of the milk febricula; then occurs a gradual change. The number of granular bodies diminishes day by day; the lactic globules acquire a more regular and definite form, and, without all being of the same size, differ less in this respect than was the case previously. These globules also, having previously been united, separate and move independently of each other. This change does not always occur at the same period. There are some traces of the primitive condition of milk twenty-four days after delivery, as a rule, to which there are exceptions. Sometimes the milk retains the character of colostrum far beyond the ordinary period, occasionally for months, or during the whole of lactation. Agglomeration of milk globules (fat) and presence of granular bodies are signs of milk either imperfectly formed or not of good quality. This modification takes place either in consequence of a lesion of the gland or of a change in the milk due to general disturbance of the health. A young mother eight days after labour had metro-peritonitis. As long as this continued the milk was full of granular bodies. The application of leeches relieved her, and from that moment the granular bodies ceased to appear. Pus may be found in milk; this is not dissolved by ether, as the colostrum corpuscle is. The diameter of the milk globule (fat) increases the longer the time after delivery, but this sign is of no use to ascertain the age of the milk.

Taking them in the chronological order of their works, other authors write as follows. Beck[3] says nothing on the subject. Guy[4] makes no mention of it. Funke[5] gives an exceedingly good plate, figuring the colostrum corpuscle. Montgomery[6] says: Donné states that the colostrum corpuscles occur in woman until the twentieth day, but that Simon never detected them after the eighth or tenth; and, according to D'Outrepont, they usually disappear on the third day. Peddie says that changes in respect of the colostrum bodies go on in general until the tenth day, but sometimes it is three weeks before they cease. The conclusion is that we cannot lay much stress upon them in a judicial examination. Taylor[7] does not mention this subject. Casper[8] says that from six to eight days subsequently to labour the milk exhibits the colostrum corpuscle (a conglomerate of small fat particles held together by an albuminoid substance). Taylor[9] gives a figure of the colostrum corpuscle, mentioning the fact that it is found in the first milk secreted after delivery, but says nothing as to its being any proof of recent delivery. Guy and Ferrier[10] also give a figure, and say that the corpuscles are found in milk for the first five or six days, being of practical value only then. Ogston[11] says that a microscopic examination of the milk, when they are present, may sometimes contribute to prove the recent occurrence of parturition. This solved all doubt in a case reported by Mr. Mercer Adam. The body of a new-born child, much decomposed, was found in a moor in the south of Scotland; it appeared to have been dead four or five weeks. Suspicion having fallen on a young woman who was supposed to have been delivered secretly about that time, she was arrested, and acknowledged that she had borne a child about a year and a half before, which she had nursed until within three months of her apprehension, but she firmly denied having been recently delivered. No feasible plan of deciding the question appearing, someone suggested that her milk should be examined by the microscope. This was accordingly done, and it was found to abound in colostrum globules, showing that parturition had lately occurred. (As we shall see, this was an unwarrantable deduction, even although, as happened, the girl then confessed that she had recently given birth to a still-born child.) It should be remembered, however, that colostrum has been met with in the milk of the human female so late as the seventh month after delivery. Barnes[12] says that the "colostrum corpuscles are the still coherent globules which result from the fatty metamorphosis of epithelial cells." They are characteristic of the first milk, and after a few days generally disappear. Donné states that they are present in mammitis during lactation, also when menstruation occurs during lactation. This latter fact has been verified by Barnes, who found that they were reproduced at every period, lasted for seven days or more, and then disappeared during the interval. Lehmann states that they are found in the course of any acute affection occurring during lactation. When these fat-containing globules follow their normal course and rupture, setting free their contents, the cell wall disappears in the galactophorous ducts, since they are not seen in the milk. A figure is given.

The value of this sign being so uncertain, I made a number of microscopical examinations of human milk myself. These were twenty-three in number; four of them were re-examinations at different periods of two cases, and in another case the milk differed in the two breasts, each examination being recorded; so that, in all, eighteen women were the subject of observation. The colostrum corpuscles vary in size, in my cases measuring from ·0032 to ·0005 of an inch in diameter. They are generally of circular outline, but are sometimes irregular in shape; the border is finely indented, the colour is a light yellowish red, and the contents are finely granular. The fat globules, on the contrary, vary in diameter from ·0013 to ·0001 of an inch as maxima, and are met with of all sizes below this until they become invisible to a low power (⅓ objective and No. 1 eye-piece). They are always circular in shape when the milk is recent; the border is perfectly unbroken in outline, the colour is a dead white, and the contents are transparent and homogeneous.

I will now proceed to narrate briefly, firstly, the cases in which I found colostrum corpuscles, and, secondly, those in which they were absent.

1. *Cases in which colostrum corpuscles were present.*—No. 1: Primipara; premature labour; had scarcely been free from coloured discharge for a day during the six and a half months of her pregnancy; child died at birth. There were numerous colostrum corpuscles; fat globules very small and wide apart.—No. 8: Same case, two weeks after (when the cavity of the uterus was normal in size).—No. 12: Three weeks after. I measured a colostrum corpuscle and found it to be ·0011 of an inch.—No. 14:—Same case, four weeks after the labour. The microscopic appearances were much the same in all the four examinations; at the last examination the milk absolutely swarmed with the corpuscles.—No. 7: Patient pregnant five months of her first child; corpuscles small, being ·0007 of an inch.—No. 11: A week later. The corpuscles were larger; the measurement of one was ·0014 of an inch.—No. 13: Multipara; last baby born twenty-six months ago, and weaned ten months. Patient has retroflexed uterus, and is not pregnant. In the breast milk were numerous colostrum corpuscles, measuring from ·0015 to ·0029 of an inch; fat globules ·0007 of an inch and under.—No. 15: Suckling her four months' baby; colostrum corpuscles were very few.—No. 17: Married three years and a half, and has never been pregnant. Ever since marriage, for a week before the period the breast fills with milk, which passes away on the first day of the period. In this fluid there were several colostrum corpuscles. This patient had ovarian prolapse, dysmenorrhœa, and dyspareunia, for which I subsequently removed the appendages.—No. 18: The *right* breast of No. 19. Suckling her baby of twelve months old, but not with this breast, which she has never been able to use for any of her six children. Is now menstruating. Milk thick and opaque; fat globules very small; colostrum corpuscles numerous, one of them measuring ·0014 of an inch.—No. 21: Case of chronic ovaritis. Twenty-three months since last labour, and eleven since weaning. Swarms of corpuscles, measuring

[1] British and Foreign Medical Review, 1838, vol. vi., p. 181.
[2] Considerations on Milk, especially that of Nurses. By W. Al. Donné.
[3] Elements of Jurisprudence, 1838. [4] Forensic Medicine, 1844.
[5] Atlas of Physiological Chemistry, Cavendish Society, 1853, Plate 11, figure 2. [6] Signs and Symptoms of Pregnancy, 1856.
[7] Principles and Practice of Medical Jurisprudence, 1863.
[8] Medical Jurisprudence, New Sydenham Society, 1864.
[9] Principles and Practice of Medical Jurisprudence, 1873, vol. ii., p. 375.
[10] Forensic Medicine, 1875.
[11] Lectures on Medical Jurisprudence, 1878, p. 159.
[12] Obstetric Medicine and Surgery, 1885, vol. i., p. 197.

about ·001 of an inch; and fat globules of all sizes.—No. 22: Aged fifty-seven. Five months since last period, but had a slight show two days ago, due to mental emotion on account of approaching operation. Pelvis not examined. Breast was removed for carcinoma; on incising it afterwards a teaspoonful of milk was found in the ducts about the nipple, which contained well-formed fat globules measuring ·0005 of an inch, and numerous colostrum corpuscles measuring from ·0009 to ·0016 of an inch. Last child eight years old.—No. 23: Labour four years ago; lactation for nine months; has never been pregnant since, but has always had milk in the breast. This was a case of lacerated cervix and perineum, with dyspareunia.

1. *Cases in which colostrum corpuscles were absent.*—No. 2: Three weeks after miscarriage at four months.—No. 3: Three and a half months after labour at full term; suckling.—No. 4: Two months and a half after labour at full term; suckling.—No. 5: Ditto.—No. 6: Ditto.—No. 9: Two months after labour at full term; suckling.—No. 10: Is suckling her baby of ten months. Came into hospital for ruptured extra-uterine fœtation, for which I operated.—No. 16: Two months and a half after labour at full term; suckling.—No. 19: The *left* breast of No. 18. The milk of this the only breast ever used was most carefully examined for colostrum corpuscles, with a negative result. Baby twelve months old.—No. 20: Baby twelve months old; weaned three weeks; mother suffering from acute nephritis and albuminuria.

Thus in six cases (Nos. 3, 4, 5, 6, 9, and 16), which were suckling at or about three months, no colostrum corpuscles were found. They were also absent in three cases (Nos. 10, 19, and 20) suckling from ten to twelve months, and in one (No. 2) three weeks after premature confinement at four months. The colostrum corpuscles were present (excluding the case in question and not reckoning re-examinations) in one case (No. 7) five months advanced in her first pregnancy; in one (No. 2) a week after premature labour at six months and a half; in one (No. 15) four months after labour at term, suckling going on (corpuscles very few in number); in three (Nos. 13, 21, and 23) at twenty-six months, twenty-three months, and four years after labour, and ten months, eleven months, and three years and a quarter after weaning; in one (No. 18) twelve months after labour, in the breast that was never used; in one (No. 22) after the menopause; and in one (No. 17) where there had never been a pregnancy. Thus, excluding Nos. 1 and 15, the confinement had taken place in all these cases some considerable period previously, in one being eight years; one patient had never been confined, and one had never been pregnant.

It is evident, therefore, that the colostrum corpuscle is no proof of recent delivery, or of delivery, say, within the previous three months. It is a sign of incomplete development of the products of the mammary gland, and in this way we get it with retroflexion of the uterus (No. 13), prolapse of the ovary (No. 17), incomplete action of the gland (No. 18), chronic ovaritis (No. 21), cancer of the breast (No. 22), and dyspareunia with laceration (No. 23), in all which cases we get the irritative action of disease, instead of the normal healthy activity of the reproductive organs. In fact, the presence of the corpuscle would tend to negative the supposition of a delivery followed by three months' suckling, as was the contention of the defendant in the case in point. In this case, if there were no other explanation of the presence of milk of the quality described in her breast, such as ovarian disorder &c., we see that no improbability is incurred in supposing her milk supply to be the result of the confinement eighteen months previously; or she may have been confined three months before, the baby dying and the breast not being used. As a matter of fact, the child she produced was afterwards claimed in court by the parents, who swore that E. F—— had paid them a sum of money to hire it for a time; the ultimate result being that she was sentenced by Mr. Justice Field to several months' imprisonment.

Nottingham.

BRADFORD HORSE AMBULANCE.—The presentation to the Corporation of the horse ambulance provided by the workpeople of that town took place on Saturday last. In the absence of the Mayor, Alderman W. W. Wood (chairman of the Watch Committee) officiated as president during the ceremony, and on behalf of the Watch Committee and Corporation received the ambulance. The subscriptions amounted £146 4*s.* 3*d.*

CASE OF MEDIASTINAL CANCER.

BY R. WHITTINGTON-LOWE, M.D.

ON Sept. 30th last I received a message requesting me to call and see a patient who had come to Brighton about an hour before I saw him. He was a big, wide-chested man, aged sixty, whom I had attended a year ago for a rather severe attack of lumbago. He told me that he had been ill for three weeks, during which time he had lost flesh and strength. He had been complaining of pain across the epigastrium. He had seen two physicians in London, who informed him that he was suffering from rheumatism of the diaphragm. His pulse at this time was about 140; temperature (mid-day) normal. The patient went into Norfolk for change, and consulted a doctor there, who confessed that the case puzzled him. His pulse kept about 140; and his temperature, when taken at about 12 mid-day was normal. At this time there were severe pains about the epigastric region, and as he did not find himself improving he determined to come to Brighton. I found him considerably thinner than when I attended him last year. Complexion sallow; tongue inclined to be dry, and considerable thirst; pulse 144. He informed me that there had been no rise of temperature. This, however, I found was incorrect, as at my visit on Sept. 30th, at 6 P.M. the thermometer registered 101°; respiration 30. Complete examination was postponed till the forenoon of the following day. The subjoined notes are extracted from my case-book, having been written at the dates stated, thus giving an additional interest to the case, and presenting the salient points as they occurred.

Oct. 1st.—Made careful examination of chest and abdomen. Unable to detect any well-marked departure from health beyond the rapid heart action and increased rapidity of respiration. There is a difference of vocal resonance and thrill, both being greater on the right side. Pulse at 11 A.M. 134, temperature 99°, and respiration 26. Ordered a mixture containing tincture of strophanthus to be taken every third hour. At evening visit, pulse 140, temperature 100·3°, and respiration 28. Patient looks very ill, with an expression of consciousness of impending danger.

2nd (Sunday).—Patient much the same. I think badly of him. Proposed to patient that I should ask a brother physician to see him with me, which was agreed to. My colleague's examination did not elicit anything further; he is inclined to attribute the vague symptoms to rheumatic origin. Strophanthus to be continued, and a mixture containing paraldehyde given at night. Pulse, respiration, and temperature much as before, rising in the afternoon and falling in the morning.

5th.—Patient does not improve. This morning I think I can detect just a suspicion of fine crepitation over middle of left lung. No catching of breath or pain on deep inspiration. No expectoration. Patient looks very ill. Great thirst. Liver, kidneys, &c., all apparently healthy. Urine acid; sp. gr. 1030; deposits urates, and crystals of uric acid are seen under the microscope. Telegraphed to one of our leading consultants in London, who came down by the afternoon train and made a searching examination of the patient. Arrived at the conclusion that there was "a low sneaking inflammation of the base of the left lung about to develop"; at the same time confesses the case to be a most peculiar and obscure one. Ordered strophanthus to be continued, and an effervescent mixture with citric acid to be given. Patient to stay in bed, with poultices on.

7th.—This morning slight crepitation over base and middle of left lung still heard. Slight *irritative* cough; no expectoration. Other symptoms as before. Pulse 140: temperature 100°; respiration 30. Ordered two grains of quinine to be given three times a day. Patient disliked the paraldehyde so much that I have substituted bromide of ammonia and small doses of liq. mur. morph. at night, and it has a capital effect. We have now to do with some slight inflammation of the left lung, but is this the primary disease or a symptom of something not detected? I think so. Was it this inflammation only now developing that caused the pulse to be 140 nearly a month ago? I think not. There was a little pure blood coughed up yesterday (not pneumonic sputa). Is it cancer affecting the lung?

15th.—Patient has been going on with very little change

of any kind since last report on the 7th. Pulse has been about 140, this morning 146; temperature nearly normal; respiration 30 or 32. The lung symptoms have undergone no development. Slight *irritative* cough, not pneumonic; no expectoration. Vague pains about the chest, not severe. On the evening of the 13th I was sent for in a hurry, the patient having had a sharp pain running from the abdomen into the chest, which he described as "agonising," but lasting only about a minute. My colleague in Brighton saw the case with me again this forenoon. Does not make out any very well marked change. Thinks perhaps there is slight pleuritic effusion, and suggests an iodide of potassium ointment made with lanoline to be rubbed into the side. I have stopped the strophanthus for the last few days, and been giving an iodide of potassium mixture. Patient's appetite has been good throughout, and he takes plenty of nourishment in the form of milk, eggs, beef-tea, puddings, and small portions of mutton or chicken as he feels inclined. He has a couple of glasses of sound claret.

17th.—Patient much the same. Cough disappeared. Front of chest very resonant. A good deal of distension of transverse colon. Patient is a director of one of the large insurance offices, and the board, at their meeting yesterday, requested their consulting physician to proceed to Brighton to report on their sick friend. He was again submitted to a thorough overhauling, but with the old negative result. I asked this fresh consultant what he thought of the idea of cancer affecting the left lung, more especially as I have now a history of a sister of the patient having died of cancer of the liver; and he replied that while he "did not say it was not cancer, there was really no actual sign of it being so." He thinks badly of the case. No change in treatment.

22nd.—During the week the respirations have been less frequent—28, 26, and 22; pulse 122, 129, and 132; temperature normal and subnormal. Pulse up again to-day, weak and difficult to count, 140; respiration 30. There has been a little difficulty with constipation, and we have used castor oil, hydrarg. subchlor., and enemata. There is a good deal of tympanites. The stools are very large; healthy in colour. Urine normal in quantity and appearance. Turpentine stupes applied to abdomen. Tongue very dry. Great thirst.

23rd.—Patient does not seem so well this morning, and expresses some anxiety about being unable to pass urine, a complaint from which, it appears, his father suffered, and this seems to have put the idea into his head. He passed urine three or four times during the night in fair quantity, and last at 7 A.M. Great distension of abdomen from flatus. Pulse 140; temperature 98°; respiration 30. Sent for at 3 o'clock this afternoon, and requested to bring catheter. Patient has not passed urine since 7 A.M. Cannot make out any dulness from distended bladder. Passed catheter; bladder empty! Turpentine stupe ordered, and half an ounce of castor oil. Saw patient again at 7.30 P.M. Looks much worse. Pulse 158; respiration very hurried. No urine has been passed. The oil had not acted. Great nervousness and discomfort from distension of abdomen. Ordered enema, and sent a request to my medical friend asking him to come and see the patient. On his arrival, we carefully talked over the case with its new symptoms of great tympanites and the non-passage of urine. Saw the patient, and determined to pass catheter in case of retention being present. Ordered carminative mixture, and a dessert-spoonful of brandy every hour. On passing catheter I found the bladder empty, and it is therefore clear we have suppression as suspected. Patient looks as badly as he can, is covered with cold clammy perspiration, and appears to be sinking.

24th.—Was rung up at 1.30 A.M., and arrived at patient's house just in time to see him die at 2 A.M. Was informed there had been some sickness, causing great distress.

Necropsy thirty hours after death.—Having obtained the sanction of the son and brother, I made an examination at 7 A.M., Oct. 25th. The seat of disease was found in the chest, at the root of the left lung. Here, on passing my hand down into the left pleural cavity, an abnormal mass, about the size of an ordinary apple, was felt, close to the middle line. On removal, this was found to be mostly composed of a pinky-white brain-like substance, which had infiltrated the bronchial glands, and, in a tangled mass, compressed and constricted the left bronchus. The substance of the lung itself also contained this encephaloid matter, mixed with black patches. The milky juice of this substance, under the microscope, presented the appearance of a highly molecular and cellular fluid, and was of a malignant character. There were signs of some recent pleurisy, and a small quantity (four ounces) of fluid was present. The posterior and inferior portion of the lung was solid. The right lung was emphysematous, otherwise healthy. Heart flabby. A small amount of fluid in pericardium. On one of the cusps of the aortic valve was a large earthy concretion, like a piece of white coral, which branched. This gave rise to no sound during life; and, had it done so, all attention might have been diverted from the lung, where but little evidence of disease could be detected. Liver, spleen, kidneys, pancreas, stomach, and intestines healthy, with the exception of being all rather flabby. The examination having taken place in a private house and semi-secret manner, a perfectly complete examination was impossible, as great quiet and expedition were required; enough, however, was elicited to clear up an otherwise most obscure case, and it stands now as one of carcinoma (medullary) implicating the bronchial glands and root of the left lung. The heart in front with its rapid action masked any abnormal sound that might have been present.

These notes I have extracted from my case-book just as they stand. They were entered from day to day as records of a case that greatly interested me and caused me no little anxiety and thought. They were never intended for publication, nor are they now, perhaps, fit for dissection by a severe critic, but I have purposely avoided dressing the original notes for appearance in THE LANCET, as I think more than half the benefit to be derived from their perusal will be gained by the reader finding himself, as it were, at the bedside of the patient and seeing the case as others saw it.

Brighton.

PERFORATIVE PERITONITIS CAUSED BY ROUND WORMS (ASCARIDES LUMBRICOIDES).

BY SURGEON-MAJOR R. D. MURRAY, M.B.,
FIRST RESIDENT SURGEON, PRESIDENCY GENERAL HOSPITAL, CALCUTTA; AND SUPERINTENDENT OF ASYLUMS AT THE PRESIDENCY.

MY reasons for publishing the following cases are their extreme rarity, and the fact that the possibility of their occurrence has been doubted by several eminent authorities.

CASE 1.—Baboor Ali S——, a Mahommedan, aged sixteen, was admitted to the Dullunda Lunatic Asylum on March 17th, 1883, suffering from acute mania. On Oct. 4th, 1884, he was admitted to hospital, and I find the following notes in the case-book:—"Refuses food; restless; makes no complaint of pain; no diarrhœa; no vomiting; passed several round worms. In the evening very ill; pulse failing; fever; vomiting; some round worms thrown up; abdomen tympanitic. On Oct. 5th he sank, and died suddenly at 7 P.M. A post-mortem examination was held at 8 A.M. on Oct. 6th, and an ulcer the size of a four-anna bit (sixpence) was found about the middle of the jejunum, with ragged margins and some thickening and congestion around it. About two inches higher up there was a second smaller ulcer, extending through the mucous coat only. The contents of the intestine and five round worms had escaped into the peritoneal cavity. Cause of death: Perforation of intestine by round worms." These notes were made by Surgeon-Major E. G. Russell, who was then in charge.

CASE 2.—Netai D——, a Hindu, aged forty-three, was admitted to the Dullunda Asylum with dementia, in October, 1870. On the morning of Sept. 29th, 1887, he was brought to the hospital with colic, became rapidly collapsed, and died at 7.30 the same evening. On post-mortem examination next morning, there was found to be an ulcer of the small intestine, perforating the walls, through which seventeen round worms had made their way into the peritoneum. The other organs were not apparently diseased. Surgeon-Major G. Bomford made the above record.

CASE 3.—A Burman prisoner, aged forty, died suddenly in the Chittagong Gaol, in 1876, in a state of collapse, supervening on vomiting, diarrhœa, and intense abdominal pain. Post-mortem examination revealed recent peritonitis. A dead round worm five inches long lay in the peritoneal cavity. There was an aperture about as large as a three-

penny piece, with clean cut punched-out-looking edges in the lower third of the ileum. The tissues immediately around the opening were deeply congested. Two large round worms were found alive in the small intestine, and one in the stomach. The perforation was not the result of ulcerative disease. The hole in the gut was circular and ring-like, and quite unlike any solution of continuity from disease. The mucous membrane of the alimentary canal was throughout healthy, and presented no trace of tubercular or other disease. I believe, then, that death was undoubtedly caused by the worm perforating the bowel.

This last case I reported soon after its occurrence in the *Indian Medical Gazette* for December, 1876, and it is alluded to by the late Dr. Norman Chevers in his last publication, "A Commentary on the Diseases of India." He also cites a similar case reported by Dr. Edward Birch in the same gazette for July, 1878, when a lunatic died suddenly in the Hazaribagh Asylum, and it was found on post-mortem examination that ascarides had escaped through an ulcerated opening in the jejunum into the peritoneum. Dr. Chevers says: "It appears questionable whether the worms perforated the intestine in either of the above cases." Dr. Bristowe, in the latest edition of his "Practice of Medicine," says with reference to this entozoon: "It has been asserted that it occasionally perforates the wall of the bowel, and thus finds its way into the peritoneum or some sinus or abscess. It is now, however, generally held that when found in such situations it has simply passed thither through an accidental perforation." Dr. Cobbold says: "In severe cases..... deathly enteritis or perforation of the intestine has been known to occur." As a result of my own observations in this country, I have no doubt whatever that the round worm is capable of causing perforation of the bowel, and actually boring its way into the peritoneum. Considering the great prevalence of these entozoa in Eastern countries and among the dark races generally, the mortality caused by them is, in all probability, greater than is usually supposed. In cholera times they are frequently a predisposing cause of the disease.

Calcutta.

AN OBSCURE CASE OF KIDNEY DISEASE.

BY HERBERT J. CAPON, M.D.

ON the evening of May 16th, 1888, I was summoned to see J. M. R——, aged twenty-six, a young lady who had arrived from abroad six days previously. She gave the following history: Three years ago last Christmas she was confined to her bed with pain in her left side and vomiting. This recurred acutely at her catamenial periods, and was regarded as of liver origin. Her urine, of which from time to time, and generally at the periods of catamenia, she had passed large quantities, was not examined. She suffered at intervals from sickness, and was not considered to be of a strong constitution. On the voyage to England, when the ship was extra "rocky," she was always sick, but this was generally relieved by champagne and rest. She took her food as usual, and drank claret with her meals. She entered into the general amusements during the voyage, and danced frequently. There was nothing particularly noticeable in her general state of health. At Gibraltar she suffered from an influenza cold, which she fancied "had struck inwardly." She arrived in England on May 10th. On the morning of the 16th, on returning from the City in a hansom cab, she complained after dinner of pain in her right iliac and lumbar regions, which was so acute as to necessitate her taking to bed. She was usually constipated, for which she generally found citrate of magnesia an excellent remedy.

On first seeing the patient, she was lying on her back, perspiring profusely; respiration 24, attended with pain at the base of the right lung posteriorly; pulse 108, of good volume, regular; temperature 100·4°; slight cough, occasionally raising sputum of a rusty colour with considerable effort, but not in any large quantity. The bowels were moved on the day previously. There was no urine to examine. Examination of the chest revealed absolute dulness at the right base up to within three inches of the inferior angle of the scapula. The respiratory sounds were absent over the dull portion, but tubular at the upper margin of dulness; no ægophony; vocal fremitus increased; lungs in other parts normal; heart sounds normal. There was much tenderness over the ascending colon, extending backwards, accompanied by some noticeable swelling. Her catamenia were then expected, and, as there was a history of dysmenorrhœa, I prescribed the following mixture: Liq. ammon. acet. conc., 3 dr.; tinc. ferri perchlor., 1 dr.; potass. bromid., 1½ dr.; syr. simplici, 6 dr.; aquam ad 6 oz.: a sixth part to be taken every four hours, with ½-gr. morphia pill when in pain. I also had linseed and mustard poultices applied to the back and right flank, and put her upon fluid diet.

May 17th.—The patient had slept fairly well, but perspired profusely. Temperature 101°; pulse 108; respiration 24. Had taken nourishment fairly well. Still complained of great pain in the same regions. Ordered to follow the same treatment.

18th.—Condition much the same. Dulness slightly increased upwards. Sputum scanty, and of same character. Catamenia commenced. She stated that she had not micturated for twenty-four hours. No distension of bladder could be made out by percussion. A hot hip bath was ordered, and a mixture prescribed as follows:—Tinct. opii, ½ dr.; tinct. senegæ and tinct. scillæ, of each 2 dr.; sp. ammon. aromat., 2 dr.; syr. aurantii, 6 dr.; aquam ad 6 oz.; a sixth part to be taken every four hours. In the evening she was not sure whether she had micturated in the bath.

19th.—Had slept well, but rambled at times. Had taken nourishment fairly well. Perspiration still profuse. Easier lying on the left side. Temperature normal, probably owing to the perspiration. Aspect dull, somewhat livid. Passed no urine. Catamenia offensive. The catheter was used, but the bladder was found to be empty. Bowels moved after enema and dose of castor oil.

20th.—Aspect somewhat livid. Perspiration still profuse. Passed no urine. Pain less, owing to morphia. The dulness at the base of the right lung had increased, with similar auscultatory sounds as on the 17th. Slept well through the night, and seemed very drowsy. Perfectly conscious. Had taken nourishment fairly well. Tongue coated with moist white fur. Bowels open after enema.

21st.—Slept heavily through the night. Temperature 101°; pulse 120; respiration 28. Lividity continues. There is now marked dulness at the base of the left lung also, extending to within three inches of the inferior angle of the scapula. Still no urine passed. Quite clear in intellect. Her condition being extremely grave, I requested a consultation with Sir William Jenner, who saw her at 7.30 P.M. with me, and prescribed the following mixture:—Potass. citratis, 2 dr.; ammon. chloridi, 1 dr.; tinct. senegæ, 2 dr.; sp. etheris, 1 dr.; ammon. carb., 20 gr.; aquam ad 6 oz.; one-sixth part to be taken every four hours.

22nd.—She slept fairly well through the night, but gradually sank, dying about 7.30 A.M.

Inspection made twenty-four hours after death.—Body well nourished. Post-mortem lividity in patches on the face, around the mouth, and on the dependent parts of the flanks. Abdomen only opened, and about a pint of serous fluid removed. Without disturbance of organs the appearance was as follows:—Cæcum slightly hyperæmic, about two feet of the lower end of the ileum more so, and ascending colon very much so, particularly advancing towards its mesenteric attachment. These portions of intestine were dilated with flatus; no collection in them. On drawing these organs to the left side, an intensely inflamed condition of all structures over the right kidney was observed, with much serous infiltration of areolar tissue. On removing the kidney, this condition was found to involve the muscles of the back and the diaphragm, and to extend upwards to the base of the right lung. These parts were softened and sodden. The under and posterior surface of the liver was also darker than normal. The right kidney was enlarged, softened, acutely inflamed, and on removal was found distended with urinary secretion. One saccule was ruptured, from which escaped six or eight ounces of fluid. The left kidney was found enormously dilated, sacculated, and full of fluid. The pelvis was dilated to the size of a hen's egg, and the ureter was as large as one's thumb, being plugged at its point of crossing the psoas muscle and common iliac vein with a calculus slightly larger than a rifle bullet, and of the same shape. This condition had undoubtedly existed for some considerable time, as the adhesions were old and tough, and required much care in dissecting the ureter away. The right kidney weighed 15½ oz. Its substance was softened

and disintegrated. The capsule was adherent all over, but stripped off with tearing away of kidney structure, leaving the surface granular and soft. At the upper part was an abscess apparently as large as a hen's egg, which was ruptured in removal, and constituted the "sac" above named. The infundibula were much dilated, and contained one large irregular calculus, weighing nearly ½ oz., with about 140 others varying in size from a horse-bean to a millet-seed. In the ureter, about two inches below the kidney, were three calculi, one completely blocking the lumen. The left kidney weighed, with ureter, fluid, and plugging calculus, 17 oz.; without the last two, 6½ oz. The calculus weighed 52 gr. The difference consisted simply of clear straw-coloured fluid. There was not the slightest trace of kidney substance left, being simply one large fibro-capsular, multilocular cyst. The right ovary weighed a little over 1 oz., was irregularly cystic, and had applied to it the fimbriated extremity of that Fallopian tube (catamenia present). The left ovary weighed ¾ oz., and was also cystic. There was no rupture of a Graafian vesicle on either. The ovarian capsules seemed somewhat thickened and tougher than natural. On the fundus of the uterus was a small subperitoneal fibroid as large as a pea. The spleen, intestines (beyond the inflamed part), and other organs were apparently normal. The bladder was empty and contracted.

In the family history, one finds that the mother died two years ago of uterine tumour, stated to be fibroid and of rapid growth, nine months after its existence had been discovered The father is living, but has had two attacks of gout. One brother died, aged four, of stone in the bladder, thirty years ago, unrelieved. Two children died of diphtheria and croup during infancy, and one of scarlatina. An elder sister is at present suffering from uterine tumour, and is to undergo treatment at the hands of Sir Spencer Wells, Bart.

Edgware-road, W.

A NEW AND RATIONAL TREATMENT FOR GONORRHŒA.

By CHARLES J. SMITH,
FORMERLY SURGEON TO THE FARRINGDON DISPENSARY.

FROM causes, not far to seek perhaps, urethral affections of a specific character have been sorely neglected by the general body of surgeons, and left almost entirely in the hands of a few specialists, who probably have become such by the accident of their obtaining appointments at institutions of a special character, rather than by any choice or predilection for the class of cases which there fall to their lot. It cannot, therefore, be wondered at that so little has been done to reduce the treatment of an affection such as gonorrhœa to something like an exact science. An approach to a better line has been made of late in the use of medicated bougies; but the objections to these are the time requisite for their proper application, and the difficulty of thoroughly carrying out the necessary details to ensure the absolute disinfection of the affected tract. It was, however, starting from this point that I concluded there must be a way of dealing with gonorrhœa which should be at once effective and effectual. It occurred to me then that if remedies were made up in the form of an ointment and introduced by a proper instrument the difficulties would in all probability be overcome. Taking Allingham's rectal ointment-introducer as the key, I had made for me, by Messrs. Arnold and Son, an instrument which has proved perfectly efficient. I am now able to treat my cases with marked success; and, indeed, the average duration of the attacks is so short as to appear open to question—an average of five days,—but even in this I feel convinced that the best point is not reached. I shall be both astonished and disappointed if gonorrhœa, as such, will not be absolutely killed in a couple of days. Gonorrhœa is a specific inflammation; it is to be attacked by means that will disinfect and destroy its special virus, or perhaps I shall be more correct in saying that will kill its special micrococci. A thorough disinfection of the pus-generating, or micrococci-breeding area may, I believe, be obtained by two applications, and there will be left at most a simple and very mild inflammation to be dealt with. In the cases I have already treated by this new method I have had only a thin watery discharge left in exchange for the purulent one after two or three days, and I question whether it really will prove necessary to make use of the weak astringent injection which, for the present, I prescribe for safety's sake. The accompanying woodcut shows the instrument. Each ointment-container—an oblong box with a long broad screw to expel its contents—has stems made in various sizes, all of which fit the ointment-container; so that, as with catheters, the size proper for each patient may be chosen; and this is one point of prime importance in the treatment which I would enforce. The urethra must be stretched by as large a stem as can be introduced; the object of this is that the whole of the surface may be made as tense as possible, and the ointment spread fairly and well over every portion. The bladder should be emptied immediately before the instrument is used, so that the urethra is well washed out *from behind*. The stem is to be well oiled before introduction. I use a mixture of eucalyptus and olive oils. When the stem is as far in as appears necessary, the ointment is pressed out, and the whole instrument rotated as it is withdrawn, in order that the canal may be thoroughly wiped over. A little cotton wool and the usual dressing are employed to collect the discharge; and after three hours a mild injection is given, which is repeated four or five times during the day. A second use of the ointment is made on the following morning, and the injection repeated. The only medicine given is a saline aperient. I have found no need for copaiba, or the almost equally disagreeable sandal wood.

Before leaving this subject I desire to put on record a firm conviction which I have formed from a fairly long experience in practice. It is that a very considerable number of cases of gonorrhœa in the male are never really cured. The treatment apparently succeeds, and the patients are either discharged as cured, or, considering themselves well, cease further treatment. I believe that in these cases an attenuated form of gonorrhœa remains, and may remain for years. A man under these circumstances marries, and infects his wife; the wife possibly complains of irritation and "whites," although examination of the discharge will almost invariably show it to be yellow. Now the husband has attained his tolerance, and therefore is not necessarily, in his turn, greatly affected by the wife's condition. Over and over again I have met with these cases, and no better illustration of what I mean can be given than the case of a gentleman who recently came under my care. He was married about a year ago. He offered for my inspection a mild sample of what was undoubtedly gonorrhœa, saying that he had derived the discharge from his wife soon after marriage, owing to her having "come on unwell during connexion"; and, mark, this is the most common cause assigned in these cases. Doubting this, I pressed him, but he firmly, and I believe truthfully, avowed that he had been faithful. He acknowledged gonorrhœa prior to marriage, but considered he had quite got rid of it. His wife had always complained of irritation and "whites." She had lately been confined. I immediately asked as to the child's eyes after birth. The reply was just what I expected: "there was great discharge," but, thanks to a good and experienced nurse, this had ceased after due and careful treatment.

In all cases of married women who complain to me of leucorrhœa, I invariably prescribe the use of a uterine douche, with a disinfectant and astringent, night and morning. It is of course unnecessary to alarm them in any way, but I have grown to consider it a duty to take this view of every case of the kind which comes under my notice, so strongly am I persuaded that this conviction of mine is only too well founded.

Great St. Helens, E.C.

PROVINCIAL HOSPITAL SATURDAY COLLECTIONS.—The annual Hospital Saturday collection at Leamington, on behalf of the local hospital, was made on the 18th ult., and about £85 were collected at the street stands. The total amount of the collection is not yet known. The recent Hospital Saturday street collection at Portsmouth amounted to £27 16*s.* 3*d.*, an increase of £10 on last year.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

IS TETANUS CONTAGIOUS?

By THOS. B. ADAM, M.D.

IN a review of the more recent investigations into the pathology of tetanus, Mr. Wm. Anderson states (THE LANCET, Feb. 4th, 1888): "It is certain that although tetanus may be induced by the inoculation of a specific micro-organism or of a specific ptomaine, its occurrence as the result of direct transmission from one subject to another has yet to be demonstrated by clinical experience." As a note on the above statement, I wish to record the following cases.

Chai S——, farmer, aged thirty-one, was admitted to the Foochow Native Hospital on Sept. 28th, 1887, suffering from a crushed toe. The accident had occurred three or four days before admission, and our native assistant, finding the toe gangrenous, amputated it. Symptoms of tetanus appeared on the following morning. The patient was removed to a little private room, carefully fed, and put on full doses of chloral and bromide of potassium. Severe opisthotonos developed, and death from exhaustion occurred on Oct. 1st.

Sin T——, preacher, aged thirty-one, was admitted to the hospital on Oct. 8th, suffering from internal bleeding piles. The bowel was cleared out with castor oil, and on Oct. 10th the piles were ligatured. After operation the patient was placed in the little room in which the man Chai S—— had died ten days previously. Opium was given, and the bowels kept at rest till the piles dropped off. Recovery was rapid and uninterrupted. Nine days after the operation, considering himself perfectly well, the patient returned to his home, some three miles distant. On the following morning, Oct. 20th, he reappeared at the hospital, complaining of stiffness in the jaw and muscles of the back. Placed in a different ward, he was at once put on full doses of chloral and bromide of potassium. The rectum was washed out with warm carbolised water. The anal wound looked perfectly clean. Opisthotonos soon developed, but under the chloral the spasms were limited to two or three an hour. The urine was drawn off every six hours under chloroform. Nourishment was taken well, and good hopes were entertained of recovery. On the fifth day of his illness, however, influenced by some foolish friends, he took a gloomy view of his own case, gave up hope, refused nourishment, and died of exhaustion on Oct. 26th.

Remarks.—The coincidence of the two cases was striking, and strongly suggestive of contagion. Tetanus is not common in Southern China. In eight years of hospital practice I had previously met with but one case. Our present hospital was built a year ago, is thoroughly ventilated, and occupies a healthy site. The room which the two patients occupied is 10 ft. by 8 ft., and has a wooden floor raised 2 ft. above the level of the ground. Though it appeared clean, the room had neither been swept nor washed since the first patient had died therein. Is it possible that our second patient was inoculated through the anal wound by dust containing specific micro-organisms generated by our first patient, and tetanus produced? The necessity for the thorough cleansing of a ward in which a case of tetanus has occurred is clearly indicated.

Foochow, China.

CASE OF MALFORMATION OF THE RECTUM.

By DR. W. T. HARTSHORN.

AT Junction City, Kansas, United States, I was called to examine a case of malformation of the rectum of a female child aged six months, and found, as stated by the parents, that the fæces passed through the vagina, and had done so from birth. There was no orifice externally. The child had been operated upon superficially several times previously by other physicians, but unsuccessfully. When the bowels were about to move the child suffered great pain, and strained to such a degree that she became nearly black in the face and was convulsed. The bowels did not move unless medicine had been given. I examined the child, using a small silver catheter, and, having passed it into the vagina, found an opening leading into the gut, through which the fæces were discharged. The parents having given their consent, an operation was decided upon as the only means of affording relief. The next day, the child being placed in the lithotomy position, the catheter was passed through the opening from the vagina into the gut, and, the catheter being held by Dr. Black, I cut down with a straight bistoury more than an inch deep upon the catheter, afterwards making as free an incision in extent through the gut as was deemed necessary; then passed the catheter through the opening made in the bowel, and through the incision made in the perineum, and so brought the catheter out externally. The child was teething, and although the bowels had previously been much constipated, diarrhœa now set in, which had to be relieved by medicine, and this continued throughout the case. Having passed the catheter, we next took a piece of tape saturated with olive oil, and drew it through the incision and through the opening into the vagina by means of the catheter. I gave directions to the mother to draw some of the tape through the incision when the bowels were about to be moved. The result was that, from the first, part of the fæces followed the tape, whilst the remainder still continued to pass through the vagina; but by perseverance in this way the discharge through the vagina became less daily, and more passed by the opening made. A good external orifice having been established, the tape was withdrawn. The result was perfectly satisfactory: the operations of the bowels took place naturally, all pain ceased, and the opening from the gut into the vagina closed, the child suffering thereafter no inconvenience whatever, but being in all respects the same as if no malformation had ever existed. A complete recovery was effected within six weeks from the date of operation.

Junction City, Kansas.

A CASE OF POISONING BY BELLADONNA.

By F. A. A. SMITH, M.D.

A FEW days ago a child, aged four, was brought to me in a state of complete insensibility, foaming at the mouth, and suffering from tetanic spasms and spasmodic breathing. The history of the case, as told me by the father, was to the effect that the child had swallowed some liniment, the bottle containing which was handed to me. I was unable to say at the moment what the contents of the bottle might have been, but finding the child's pupils fully dilated, I came to the conclusion that at least one of the ingredients was belladonna. The child, being insensible, could not swallow, so I injected into its right arm a quarter of a grain of sulphate of morphia, and into the left one-tenth of a grain of pilocarpine; these were in tablets sold for the purpose. In about ten minutes the foaming at the mouth ceased, and shortly afterwards the tetanic spasms; the breathing also became quiet and normal in character. The pupils soon began to contract, and to all appearances the child seemed in a quiet natural sleep, which lasted from 7 P.M. till 3 A.M., when it sat up and vomited. A small quantity of brandy-and-water was administered, and the child sent home out of danger. Next day it seemed quite well. I noticed that no sweating ensued from the injections, owing, I believe, to the belladonna taken. I heard afterwards that it was a belladonna and soap liniment which had been prescribed for the child's mother.

Cheltenham.

CASE OF ABSCESS OF LUNG.

By H. HAVELOCK DAVIES, M.B. EDIN.

R. P——, aged twenty-one years, farm labourer, in March, 1885, got cold and suffered from congestion and bronchitis for three or four weeks. He got better and went out. In July he had a relapse and suffered from pneumonia of the left side, of a subacute type, which in the third stage became chronic, and he had expectoration of pus all the following winter, during which he was confined to bed. He

recovered from this in the spring of 1886, but in a few weeks the right side became consolidated, and he soon again began to expectorate pus, which he continued to do in great quantities, often about a quart at a time, up to June, 1887, when the expectoration became extremely fetid. In the last week of March, 1888, up to which time he had been able to walk out in the open air, he became much worse, and on the 31st appeared to be sinking. On April 1st, having located the cavity, I explored with an aspirating needle in the fifth intercostal space in the anterior axillary line, and, having found pus, I made an incision on the upper edge of the rib, and introduced a large trocar and cannula, and removed about a quart of very fetid pus. Subsequently the cavity was washed out with carbolised water twice a day until April 21st, when the cannula was changed for an india-rubber drainage tube, and washing out the cavity was given up. On May 17th, having gradually shortened the drainage tube, it having been constantly pushed out, and there being no cavity found on probing, it was removed altogether and the external opening dressed antiseptically. By August 20th he was at work and fairly strong.

Snainton, York.

CASCARA SAGRADA IN RHEUMATISM.

By JAMES P. MARTIN, L.R.C.P.I. &c.

A FEW months ago, I believe, there appeared in the columns of THE LANCET a communication from a gentleman who found that cascara sagrada succeeded in subduing the pain of rheumatism after salicylate of soda had failed. Recently, in making up medicine for a case in which great pain, constipation, and a foul tongue were very prominent, I tried mixing the two drugs together, and was very pleased to find that not only did the patient rapidly improve, but that the mixture was perfectly clear, and not at all unpleasant to the taste. Many practitioners do not care to use the liquid extract of cascara sagrada on account of the nauseous taste and the thick deposit which forms when water is added, but the above facts may interest them, and are not, I think, generally known. I give, as a rule, fifteen grains of the salt and ten minims of the extract in orange-flower water every three or four hours.

Box, Wilts.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

TWO CASES OF PYÆMIA; DEATH; REMARKS.

(Under the care of Dr. SIDNEY COUPLAND.)

CASES of pyæmia are not unfrequently admitted into the medical wards of hospitals. In some the source of infection is quite obscure; in others, as in the subjoined instances, it is more or less apparent. Amongst the diseases for which it is liable to be mistaken may be mentioned enteric fever, ulcerative endocarditis, and acute rheumatism—the last named when, as here, arthritis predominates.

CASE 1. *Otitis media purulenta; arthritic pyæmia; no visceral abscesses.*—Charlotte F——, aged sixty, a nurse, married, was admitted on Nov. 7th, 1887, suffering from deafness, painful swelling of both knees, and fever. Seven years before she was first attacked with deafness and discharge from the right ear. She has been subject to rheumatism, especially in the winter, and the present illness, which commenced, three weeks before admission, with pains in the limbs and shivering, was regarded as of the same nature. But at the same time she again became deaf, and on two occasions there was severe bleeding from the right ear, with pain. In addition to the pains in the limbs and deafness, she had suffered from frequent attacks of shivering once or twice a day.

Condition on admission.—The patient is a stout woman, with iron-grey hair, and lies on her back with knees flexed. Temperature 102°; pulse 116. She is very deaf, but there is at present *no discharge from either ear*. There is slight lividity of the lips, and considerable tremor of the hands on movement. Both knee joints are swollen, and very hot, tender, and painful. There is much effusion in the joints, and much swelling around them, the popliteal spaces, especially the right, being full and tense. Both legs are œdematous. Chest emphysematous; no adventitious sounds. At apex of heart is a localised bruit, systolic in time (? exocardial). The tongue is dry and coated. In the evening the temperature rose to 103·6°.

Nov. 8th.—Morning temperature 100°; evening 103°. Pulse 116.

9th.—Restless, often crying out with pain. Tongue dry, thickly coated with brown fur. More swelling of knee joints. Pain, tenderness, and swelling in region of left sterno-clavicular articulation. The systolic murmur more widely diffused. At midnight the temperature was 103·4°, and two grains of antifebrin were given. At 6 A.M. the temperature was 100°, at 2 P.M. 102·6°, and at 10 P.M. 101°. Pulse 120.

10th.—Delirious during the night. Left ankle now swollen in addition to other joints. The temperature varied between 100° and 98·4°.

11th.—Again much muttering delirium. Knee joints still much distended, and ankle more swollen. Less œdema of left leg; more of the right. Less redness about sterno-clavicular joint. She feels cold, but has no rigor. The temperature to-day did not rise above 99°, and was often below normal. Urine free from albumen. She has been taking salicylate of soda; and three five-grain doses of urethane produced sleep.

12th.—Although there is no obvious change in the joint condition, she is free from pain and cheerful. Temperature 99° to 100·6°; pulse 104.

13th.—Slept well without draught. Less swelling of knees, and sterno-clavicular joint no longer tender. Temperature 101·4° to 103·4°, when two grains of antifebrin were given.

14th.—Tongue less dry. Deafness less.

16th.—In right ear the external meatus is congested, membrana tympani wanting, and slight serous discharge. In left ear the membrane is entire, but coated with serous discharge. Seems better.

For many days the pyrexia was now mild, the temperature seldom reaching 101°.

21st.—After several quiet nights she again became delirious. Is now very flushed and sweating freely. Tongue very dry. More pain in knee joints, which are still distended. The swelling in the region of the left sterno-clavicular articulation pulsates with the cardiac beat. Temperature 79·2° to 101·8°.

23rd.—Right ankle joint much swollen, and right leg very œdematous.

25th.—The sterno-clavicular swelling, which has considerably increased, was explored by a hypodermic syringe, and some thick creamy pus withdrawn. Grating could be obtained in the joint. Temperature 99° to 101·4°.

28th.—At 5 A.M. the patient had a rigor, the temperature rising to 103·8°. Two grains of antifebrin were given, and at 6 A.M. the temperature was 102·2°. At 7 A.M. it rose to 104·8°, and the antifebrin was repeated. At 8 A.M. the temperature was 102·8°, and at 2 P.M. 105·2°; antifebrin repeated. At 6 P.M. the temperature was 101·8°. Pulse 144 to 120.

29th.—Face dusky. Pulse irregular and intermittent. Tongue very dry. Temperature 99·4° to 100·2°.

30th.—To-day diarrhœa set in, but was easily controlled.

Dec. 1st.—Has become very somnolent; breathing also becoming difficult. Signs of pulmonary congestion. Pulse weaker.

3rd.—The patient, who had sunk into a semi-comatose state, died this morning, the temperature rising to 104·8° just before death.

Post-mortem examination. (Abstract from report by Mr. L. Hudson.)—Body fairly nourished. There is an abscess communicating with the left sterno-clavicular joint containing three drachms of yellow pus. Sternal end of clavicle bare and rough; inter-articular cartilage partially destroyed and loose; sternal facet somewhat eroded. Six ounces of clear fluid in the left pleura, three ounces in the right. Cretaceous nodule at apex of each lung, with fibrous cicatrix

in the right. Hypostatic congestion and œdema of lungs. Atheromatous patch on the aortic cusp of mitral valve; fibroid contraction of anterior segment of tricuspid; slight thickening of aortic valve. Liver normal. Spleen very large, weighing ten and a quarter ounces; much engorged; contained an old infarct. Kidneys: small cyst in the right, and fibrous nodule in the left. Intestines normal. Hip and ankle joints normal. Both knee joints distended with pus, which on the right side had burst through the capsule at its upper part, and formed a large abscess between the anterior femoral muscles. In each joint cartilages partially detached, the bone in places bare and rough. In the right ear the tympanum contained pus; membrane perforated; ossicles bare and necrosed; no affection of dura or sinuses. Left ear normal. A small arachnoid cyst occurred in the brain between the marginal and first frontal gyri, an inch and a half anterior to the fissure of Rolando.

CASE 2. *Pyæmia following ulcerative tonsillitis; pleurisy.* Arthur C——, aged twenty-four, a carpenter, unmarried, was admitted on Aug. 16th, 1882, complaining of pains "all over" him, but especially in the right elbow joint, which was swollen, red, and tender, and was kept in a flexed position. No other joint was affected. The heart sounds were low-pitched and soft. Pulmonary signs normal. Tongue coated. The urine contained a trace of albumen. The patient, who was a well-nourished, muscular young man, was unable to give a very clear account of himself, but it was ascertained that he had always hitherto enjoyed good health, was of temperate habits, and had never contracted syphilis. On Aug. 5th he was attacked with a sore throat, which became ulcerated. He was treated for this, and by the date of his admission all throat trouble had passed away. On the 10th he first complained of joint pains—in the shoulders and in the right elbow; but he kept at his work until the 12th. On the 13th he had pain across the chest, and on the 15th was delirious.

The temperature on admission was 102·4°. The case was regarded as one of acute rheumatism, and salicylate of soda was prescribed.

17th.—The patient has passed a restless night. Temperature 101·2°; pulse 108. On examination of chest, some fine crepitation heard at right base, with whiffing breathing. Dulness over left lung behind, from angle of scapula to extreme base, where the breath sounds are suppressed.

18th.—Morning temperature 98·6°; evening 101·6°. One-sixth albumen in urine.

19th.—Temperature 101°; pulse 120; respiration 30. Swelling around right elbow slightly less. Evidence of effusion in left pleura more marked. There is visible pulsation in third and fourth interspaces to right of sternum, as well as to left in fifth space. Normal area of cardiac dulness obscured by lung resonance. The salicylate mixture was omitted, and one containing bromide of ammonium ordered.

20th.—Passed a restless night. Temperature 101·4° At noon had a prolonged rigor, followed by profuse sweating, the temperature rising to 104·8°. Two red and painful swellings have appeared—one behind left thigh, the other in front of right ankle. In the afternoon he was attacked with violent hiccough. Coarse friction, synchronous with heart beat, heard over præcordia. Dulness and absence of breathing still at left base posteriorly. At 7 P.M. the temperature was 100·2°; at midnight, 102°.

21st.—The hiccough returned in the night and became very distressing. Tongue dry and tremulous. Involuntary micturition. Marked cardiac pulsation to right of sternum; the friction over præcordia more intense. Swellings in left thigh and over right ankle have increased. Temperature 100° to 103·2°.

22nd.—Very restless during night. Face dusky. Tongue moister. The friction last heard midway between sternum and left nipple; is diminished when the patient holds his breath. Temperature 102·4°; pulse 120; respiration 44. The swelling at the back of the left thigh has become more diffuse. At 6 P.M. the temperature was 103·8°, and the patient became very exhausted. At 7 P.M. he vomited a small quantity of coffee-ground matter. Temperature at 8 P.M. 104·8°; at 9 P.M. 105·6°. Vomiting repeated. Attacked with convulsions, followed by tetanic rigidity of trunk and limbs. Died at 10 P.M.

Post-mortem examination.—The swelling in the left thigh had subsided; on incision, the tissues appeared sodden, but there was no purulent infiltration. The right elbow and right ankle joints contained thick curdy pus. The left pleura contained about a pint of serum, and its membrane was throughout covered by a thick layer of lymph. Right pleura and pericardium natural. Lower lobe of left lung carnified and congested. No abscesses. Right lung congested. The cavities of the heart were full of fluid blood, only a few thin clots occurring in the right ventricle. The myocardium was softened; valves normal. Liver swollen and soft; spleen large, very soft, and contained numerous hæmorrhages. Both kidneys were much swollen.

Remarks.—These cases are examples of that form of pyæmia which most closely simulates acute rheumatism; in the one, indeed, the arthritis was the chief feature; in the other, there was, in addition, left pleurisy, which was *not* purulent. In Case 1 the implication of the sterno-clavicular articulation in the arthritis practically determined the diagnosis in favour of pyæmia, which the resistance to salicylate treatment and the history of rigors had already suggested. In this case plainly the pyæmia supervened on otitis, but not (as usual in such cases) through thrombosis of the lateral sinus. In Case 2 the pyæmia must be referred to the sore throat for which the patient was treated before admission.

LEEDS GENERAL INFIRMARY.

VILLOUS TUMOUR OF BLADDER; SUPRAPUBIC CYSTOTOMY; RECOVERY; REMARKS.

(Under the care of Mr. WARD.)

THE report of the case, from which the following account is extracted, was taken by Mr. A. S. Barling.

W. N. J——, aged forty-four, engineer, was admitted on Jan. 24th, 1888, suffering from severe hæmaturia. He was first seen by Mr. Ward on Dec. 8th, 1887, when the subjoined notes were made:—

"The man has led a somewhat irregular life, and has been much addicted to drink; but up to three years ago he had always had remarkably good health. At that time, after a period of more than usually heavy drinking, he noticed that his urine was of a brilliant uniform red colour, which he thought was due to blood, but he had no pain or discomfort of any kind, and there was no increased frequency of micturition. This condition of the urine, so far as he can remember, persisted for a few days only, and he remained free from symptoms until last July, when, after a day of severe over-exertion in the hot weather, he drove home in an open vehicle at night, got severely chilled, and on the following day the urine was again of a bright-red colour. This attack lasted for three weeks, with one or two short intermissions, during which the urine was perfectly clear. Since then he has had several attacks, lasting for a day or two, the attacks always following—and, in his opinion, being determined by—spirit-drinking, usually whisky or gin. The present seizure has lasted without intermission for three weeks. Except on one or two occasions, when he has passed clots, there has not been any pain, difficulty, or increase in frequency of micturition. There is sometimes a slight chilly feeling when the hæmorrhage is copious, but no distinct rigor. He has maintained weight and appetite, and has absolutely no complaint except the loss of blood, which he 'thinks must be bad for him.' No shortness of breath upon exertion..... There is a most striking, ghastly, waxy pallor of the whole of the body surface, which, however, he says, is not different, so far as he knows, from what it has always been. The mucous membranes are also markedly bloodless. Lungs and heart normal; no bruit. Pulse 96, jerky, and of poor volume. Abdomen negative; no pain or tenderness; no irregular masses or unusual resistance either in the lumbar regions or elsewhere. Rectum normal. Urine of a bright, uniform red colour, with one large clot; acid; sp. gr. 1010; much albumen. The microscope shows nothing but red blood corpuscles and a few leucocytes. It has not been noticed whether the colour of the stream is uniform from beginning to end of micturition."

Owing to the strong probability of vesical tumour, the bladder was not subjected to any instrumental exploration, as the patient lived at some distance and could not remain in Leeds.

"Dec. 20th.—No better. He says that the stream is invariably bright red at the beginning, and pales to a straw colour or faint pink tinge at the end. He is beginning to suffer from breathlessness on exertion. He absolutely declines to entertain the idea of an operation.

"Jan. 20th.—Very ill. Four days ago, after passing with

difficulty some large clots, complete retention of urine supervened, and he required catheterism, which, he says, was performed with a metal instrument, and since which he has been in constant pain, irritability, and distress. A No. 10 silver catheter was passed and twelve ounces of urine withdrawn. The catheter passed easily, and there was no limitation of its movement in the bladder. Rectal examination negative, as before. The urine was dark red, alkaline, and offensive, and contained many clots. Microscopic examination revealed only red blood cells and large masses of triple phosphate crystals. On washing the catheter, a small fragment of soft, pale pink, fleshy-looking material was found engaged in its eye, and this on examination proved to be a typical fimbriated papilloma, many of the fimbriæ being very long and slender and quite perfect."

Between Dec. 8th and Jan. 20th the man has taken various styptics and astringents internally, but there has been no local treatment attempted owing to his living so far away. He has been unable to take complete rest from his work, except on one occasion for three days, and there has not been the slightest improvement at any time during that period.

Jan. 24th (day of admission).—During the last four days the patient has had retention three times, which was relieved by the catheter. His present condition corresponds fairly closely with the above description, except that he is now too feeble to walk without assistance, and the pallor has assumed a quite distinct greenish tint. Temperature normal; pulse 100, weak, soft, and jerky. He now passes urine nine or ten times only during twenty-four hours, and is only troubled occasionally by difficulty with clots. Urine bright red; sp. gr. 1022; alkaline; much albumen; microscopically, numerous blood cells and a few epithelial scales. The bladder was washed out with boracic solution.

25th.—Urine much the same. Hæmorrhage certainly not less. Bladder irrigated with a solution containing 25 per cent. of tincture of hamamelis, one ounce being left in the bladder.

26th.—Since having the bladder irrigated the hæmorrhage has practically ceased. Only two or three red corpuscles in the field of the microscope.

27th.—Blood reappeared in urine last night. This morning the urine is again bright red. Bladder irrigated as before.

28th.—Urine clear. Patient feels much better.

29th.—Urine clear, and acid in reaction. The irrigation has been carried out twice a day.

30th.—This morning Mr. Ward opened the bladder by the suprapubic incision (details of the operation are omitted). On introducing the finger, the bladder appeared to be filled with a delicate, filmy, friable growth, which, however, as the bladder emptied, seemed to collapse and assume the size and general outline of an average strawberry, which was attached about three-quarters of an inch above the orifice of the right ureter by a long pedicle of extreme tenuity. The growth was twisted off with forceps, and the pedicle, which was left rather long, was afterwards cut close with curved scissors. There was considerable hæmorrhage, which the injection of a hot boracic solution failed to arrest, but which ceased almost immediately upon the application of the hamamelis tincture. The wound was partly closed by suture, a large drainage tube inserted, and a dressing of sublimate gauze and salicylic wool applied.

The subsequent history of the case may be briefly summarised. There was no hæmorrhage after the operation; some ounces of urine passed by the urethra on the second day; the tube was removed on the fifth day; on the eleventh day a double truss was applied to the edges of the small wound; on Feb. 13th all the urine passed per urethram; and on Feb. 18th the patient was discharged well.

Remarks by Mr. WARD.—The case presents no unusual features, being a fairly typical one of its class. The only irregularity in the symptoms was the fact (which has been noticed in other cases) that the largest amount of blood was passed at the beginning of micturition, the urine gradually paling towards the end of the act. The case well illustrates the contingent risks of catheterism in these cases, and especially the risks of using an inflexible or unclean instrument. When I saw the patient on Jan. 20th he was in a most pitiable condition, and had such a nervous dread of being left unrelieved for any length of time during one of the attacks of retention that I instructed him how to use a soft catheter. The absolute uselessness of internal styptics and astringents was also well demonstrated, most drugs that have achieved any reputation being tried between Dec. 8th and Jan. 20th. After the patient was admitted into the infirmary, I was so completely satisfied with the effect of the injections of hamamelis that I did not try anything else. I saw him on March 8th, when he had gained 11 lb. in weight, felt quite strong, and was doing heavy, active work; though, probably as a result of undertaking this at too early a period, there was a distinct tendency to the protrusion of ventral hernia, which has required support.

LIVERPOOL INFIRMARY FOR CHILDREN.

CEREBRAL HÆMORRHAGE IN A CHILD AGED NINETEEN MONTHS.

(Under the care of Mr. R. W. MURRAY.)

THE following case, from its rarity alone, is perhaps worthy of record.

Ethel E——, aged nineteen months, was admitted on April 17th, 1888, for a subcutaneous nævus over the upper part of the right lumbar region. She was a well-developed, healthy-looking child, and never had any previous illness. There was no history of syphilis.

On April 17th the nævus was incised, and two days later she contracted scarlet fever. During convalescence from scarlet fever (May 6th), there was a sudden rise of temperature (104·8°); no convulsions; in fact, there was nothing definite to account for the rise. A few days afterwards there were symptoms of peritonitis, with a rapid respiration, swollen and tender abdomen, and knees drawn up. The temperature remained high, and the symptoms of peritonitis continued. The child gradually sank, and died on May 25th. At 3 A.M. on the morning of death she had a sudden attack of right-sided convulsions.

A post-mortem examination was made on May 27th. The lungs and heart were found to be normal. Abdominal viscera healthy, and no trace of peritonitis, old or recent. Brain: There was venous congestion of the anterior one-third of the outer and under surface on the left side, and on examining the under surface a clot was seen occupying the anterior part of the left temporo-sphenoidal lobe, but not quite coming to the surface. On making sections through the clot, it was found to be firm, of a dark-red colour, of the same consistence throughout, and about the size of a walnut, occupying the fore part of the middle and superior temporo-sphenoidal convolutions; the limitation of the clot was very distinct, and the brain substance around was firm. It was apparently of recent origin. The left lateral sinus was filled in the posterior two-thirds by an organised clot, obviously of some date; a recent post-mortem clot occupied the rest of the sinus. The right lateral sinus was much dilated.

Remarks by Mr. MURRAY.—The symptoms in the above case were entirely misleading and quite unaccountable, for, apart from the convulsions on the morning of death, they pointed strongly to peritonitis, and there was nothing even to suggest brain disease. The above conditions might perhaps be explained in one of three ways:—1. Hæmorrhage into an abscess cavity; and with thrombosis of the lateral sinus one certainly expected to find some evidence of old ear mischief, but after a very careful examination everything was found to be perfectly normal, besides which there was no history of any ear trouble. 2. It is just possible it might have been due to an embolus, but, as the heart was healthy, this would have to come from the nævus wound (which had not quite healed) and travel through the lungs, which, to say the least, is unlikely. 3. That on account of the bad drainage (the lateral sinus being blocked), together with the increased blood pressure (for there was marked albuminuria), a vessel gave way. This to my mind, is the most probable explanation, and most in accordance with the condition of the parts as seen at the inspection.

NATIONAL REGISTRATION OF PLUMBERS.—On Aug. 18th, in Gordon College, Aberdeen, Mr. Sheriff Brown presented the diplomas earned by members in the district of the Plumbers' Company. Dr. Matthew Hay presided. According to a statement by the secretary, 3000 plumbers had already been enrolled by the Plumbers' Company, and seventy-nine of them belonged to Aberdeen. Dr. Matthew Hay said that almost the majority of plumbers in Aberdeen and district had now become registered, and that majority included most of the best workmen.

Reviews and Notices of Books.

The Principles and Practice of Medicine. Edited and completed from the manuscript of the late CHARLES HILTON FAGGE, M.D., F.R.C.P., by PHILIP HENRY PYE-SMITH, M.D., F.R.S. Second Edition. London: J. & A. Churchill. 1888.

A Handbook of the Theory and Practice of Medicine. By FREDERICK T. ROBERTS, M.D., B.Sc., F.R.C.P. Seventh Edition. London: H. K. Lewis. 1888.

THE appearance, within a few weeks of each other, of new editions of these admirable text-books is well-timed, and will doubtless be gratefully appreciated by the large body of students who will flock to the schools in October. In including them under one notice, we must disclaim any intention of instituting a comparison between works which are, except for their subject, dissimilar in almost every respect. Yet they are both equally to be commended, and each is, in its sphere, of great utility. The high estimation in which Dr. Fagge's work is held is sufficiently shown by the rapid appearance of a second edition, which, in the case of a book that appeals rather to the "advanced" student and to the practitioner and hospital physician is remarkable. In truth, the profession soon found out the sterling qualities of the work, and regarded it—as it deserves—as the expression of the personal experience and thought of a highly trained and cultured physician. Indeed, no one who enters upon the perusal of Fagge's "Medicine" will care to leave a single page unread, and the task will be found considerably lightened by the attractive way in which the book is written. The author speaks throughout from his own knowledge, and discusses moot points in pathology with rare independence. It will be remembered that Dr. Fagge did not live to complete the work upon which he had expended the labour and thought of years; and that Dr. Pye-Smith, who edited the volumes, himself added the sections upon Diseases of the Skin, and entrusted to Dr. Wilks those upon Diseases of the Heart. In this second edition the section on Insanity has been contributed by Dr. Savage. Dr. Pye-Smith has submitted the whole work to the most careful revision, with the result that it is not only brought fully up to date, but is far more complete and "finished" than it was originally. Evidences of the editor's painstaking and care are to be found in every part of the two bulky volumes, sometimes in the form of foot-notes containing definitions or historical references, again in excellent discussions upon the principles of nosology, and mainly in additions to or alterations in the text. Amongst the more important of such changes may be mentioned the sections on Pyæmia, Febricula, and Vaccinia; the rewriting of the chapter on Rubeola; extensive additions to those on Cholera, Malarial Fever, and Diphtheria; the introduction of articles on Actinomycosis, Peripheral Neuritis, and Friedreich's and Thomsen's Diseases; and considerable expansions of those on Anæmia and Arthritic Affections. But this bare enumeration by no means includes all that Dr. Pye-Smith has done. It is clear, from the abundant references to literature of the past three years, that he has spared no pains to make the book thoroughly abreast of advancing knowledge; whilst there are frequent citations of facts which have come under his own notice, and the records of Guy's Hospital are largely drawn upon. In all this it will be seen that the editor has continued the work in the spirit of its author, who desired to write a book which should embody in large measure the fruits of observation in the wards of that great institution. We trust that the accomplished physician who has so faithfully and judiciously edited it in the spirit of his lamented colleague may long enjoy the satisfaction of seeing many more editions of a like character through the press. Of the scientific character of a work on medicine thus produced it would be superfluous to speak, but perhaps the following excerpt from the first of the editor's foot-notes may be cited as testimony of this. After speaking of a definition of disease, he adds: "It is clear that if disease is not a single state, nor the result of a single cause, it cannot be removed by any single method or on any universal principle. Hence all 'systems' of medicine, like all 'universal remedies,' are of necessity false. Iatro-mechanical and iatro-chemical schools, Brunonian and Antiphlogistic theories, Allopathy and Homœopathy, are all equally unreasonable; not wrong solutions of a scientific problem, but ignorant answers to an absurd question." Here we have the judgment, not of a dogmatist, but of the man of science, who, in medicine as in other departments, has overturned many a doctrine based on insufficient data. Before leaving this book, the study of which we cannot too highly commend, it may be as well to mention that in this edition the typography has been vastly improved without unduly adding to the size of the volumes. Those who are acquainted with the close printing of the first edition will be grateful for this change. There has also been considerable, but not quite sufficient, improvement in the bibliographical index.

When a text-book reaches its seventh edition there is little left to be said upon it. This is the case with the Handbook of Dr. Frederick Roberts—one of the most popular text-books of the day. The merit of the work consists in the very systematic and orderly grouping of facts, and in the clear and terse descriptions of disease and its treatment, which make it so useful to the student. The author has submitted it to thorough revision, and he is to be congratulated upon the success which has attended his labours.

OUR LIBRARY TABLE.

On Transfusion of Blood and Saline Fluids. By C. EGERTON JENNINGS, F.R.C.S. &c. Third Edition. Pp. 133. London: Baillière, Tindall, and Cox. 1888.—This edition presents evidence in support of the author's original view of the practicability of directly transfusing human blood, and of repairing the loss by the intravenous injection of saline fluid. In the autumn of 1884, Mr. Egerton Jennings performed numerous experiments at Ghent, of which he published an account in our columns; he found that if depletion and intravenous injection were performed quickly after apparent death, cardiac pulsation was restored. These researches, and their important bearing upon the treatment of chloroform poisoning and asphyxia, form an interesting appendix to the work as originally published. The circumstances under which transfusion is commonly required are of such urgency that this attempt to minimise the dangers and difficulties should be warmly welcomed and widely read.

La Digitale. By HENRI HUCHARD. Pp. 136. Paris: O. Berthier. 1888.—This is an inquiry as to when and how digitalis should be prescribed. An attempt to deduce conclusions from physiological experiments leads the author to consider that it is incorrect to regard this drug as the *opium* of the *heart* or the *cardiac quinine*, since it will act as sedative or tonic according to the circumstances of its employment. He prefers to regard it as a *regulator* of the whole circulatory system, looking rather to the general evidence of cardiac failure than to the special valvular lesion. He believes that all considerations of the orifice affected occupy a very secondary position as indications for digitalis. The indications he considers most important are the following: enfeeblement of cardiac contraction, lowering of arterial tension with increase of venous tension, and diminished renal excretion coexisting with dropsy and with signs of congestion of the viscera. The author expresses his views strongly, but perhaps with an over-tendency to make

a sombre picture of the conditions in which digitalis is injurious, useless, or of doubtful efficacy. In common with most French therapeutists, he believes in the ill effects of the continuous employment of moderate doses, fearing cumulative action. He thinks it should be used for four or five days, and then discontinued for at least ten or fifteen days. The matter is regarded almost solely from a therapeutic point of view, and therefore suffers from the comparative absence of illustrative cases, their place being taken by rather wide generalisations. As a fairly representative exposition of French ideas of the actions, uses, and dangers of digitalis, this little book will doubtless prove interesting.

The Student's Handbook of the Practice of Medicine. By H. AUBREY HUSBAND, M.B., C.M., &c. Fourth Edition. Pp. 510. Edinburgh: E. & S. Livingstone. 1888.—The fourth edition of this little handbook will be welcomed by those who like their information in compact form. The author has endeavoured to bring the book up to date by considerable additions and alterations of the section devoted to diseases of the nervous system. Several new tables have been added which will facilitate the work of the student, even though they occasionally give a greater appearance of precision than is entirely warranted. Some illustrations have also been added to this edition, but it is to be regretted that in three instances their well-known source is mentioned in a barely recognisable misprint. Although the author claims to have adopted the nomenclature of the Royal College of Physicians, he has disregarded the work of the last Pharmacopœia in the half-dozen pages of prescriptions at the end of the book.

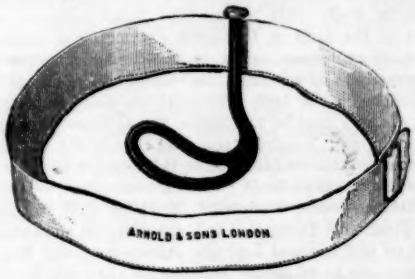
A Practical Decimal System for Great Britain and her Colonies. By R. T. ROHDE. London: Effingham Wilson.—Mr. Rohde has devoted much time and energy to the very useful, but withal somewhat disheartening, task of advocating the adoption of a decimal system of money weights and measures for use in Great Britain and her colonies. It is quite unnecessary to say that he succeeds in making abundantly clear the great advantages which would accrue in many ways from the reform that he advocates. Everybody who takes up the theme at all succeeds to that extent. Indeed, so far as we are aware, there is not to be found outside the very narrow circle of those who have a superstitious veneration for our existing system, or rather aggregate, of measures, any man who seriously argues for the superiority of the present over the decimal method of subdivision. The difficulty does not lie there. The real trouble is that we are all supplied with measuring instruments of one kind and another graduated to existing scales. These instruments are ready to hand, and familiar by long acquaintance to our imagination. We grudge the trouble and expense of making a change. For instance, one part of Mr. Rohde's scheme is to subdivide the foot into ten decimal inches, and then again into ten still smaller subdivisions. Now, it is plain that the introduction of such a scale would mean a very serious outlay upon new "two-foot rules" on the part of the working population, and would result in an amount of immediate confusion between old-fashioned and new-fashioned inches not at all pleasant to contemplate. On the other hand, the benefits to be gained from the change would in this instance be reduced to a minimum. It is comparatively seldom that inches are brought into arithmetical operations. Let any reader, for example, ask himself how often within recollection he has required to add or subtract, to multiply or divide, a quantity expressed in inches. Very rarely, we will undertake to say. They are almost always employed for the purposes of description only—purposes which the duodecimal inch subserves quite as well as any other. In other parts of Mr. Rohde's scheme, however, these conditions are reversed. Thus the change of the monetary scale involves the disadvantages only at their minimum, and would confer upon the community the maximum of benefit. No one has any private "plant" of money that would be depreciated by the proposed alteration, whereas the constant employment of money terms in the arithmetic of accounts renders their simplification a matter of the greatest importance. With this part of his subject Mr. Rohde has dealt, as we think, quite satisfactorily, and we highly commend his little pamphlet to those who can understand and appreciate the importance of his theme.

A Practical Manual of Venereal Diseases, including Disorders of Generation, Spermatorrhœa, Prostatorrhœa, Impotence, and Sterility in both Sexes. By M. K. HARGREAVES, M.D. London: R. Kimpton.—"This book has been written with the primary intention of bringing in a practical and concise form before the senior student and general practitioner information on a most important branch of medical science, which unfortunately receives far too little attention and study during the usual curriculum." It is, however, difficult to see what a "senior student or general practitioner" who has read the ordinary manuals of surgery and diseases of women has to learn from Dr. Hargreaves' little book. One is tempted to ask, What advantage can there be in multiplying treatises on such subjects?

New Inventions.

PESSARY FOR PROLAPSE OF THE BLADDER.

BEING dissatisfied with other instruments, I had made the specimen figured in the accompanying woodcut. It was originally constructed for a special case, in which it succeeded admirably, and it has been used successfully in several cases since. The material is vulcanite. It consists of a horse-collar shaped loop, to the small end of which is attached the stem, bent about two inches from the loop, so that the stem is at about 90° with it. The loop (with or without crossbars) is passed into the vagina, and when the instrument is fixed supports the anterior wall of the vagina, and prevents it descending. The stem passes up over the pubes, where it is fixed by a broad band passing



round the pelvis in the position of an ordinary truss. It is so fixed in the band that the instrument is unable to descend, and the broadness of the band prevents the instrument being forced out of the vagina. On the other hand, it does not exert any injurious pressure, but acts purely as a support, preventing the bladder from descending rather than exerting any lifting force upon it. It is stated to be quite comfortable to wear, and it successfully keeps the parts from prolapse. It is very essential that the stem passing up over the pubes be fixed in a band at least two inches in width. Messrs. Arnold and Sons, of West Smithfield, have well carried out my instructions.

T. FREDERICK PEARSE, M.D., F.R.C.S.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 1, 1888.

THE recent Congress on Tuberculosis, held at Paris under the presidency of M. CHAUVEAU, affords a striking illustration of the widespread interest that is taken in, as well as of the importance of, an accurate study of this disease. The keynote of the proceedings was contained in the affirmation by M. CHAUVEAU that now, thanks to the observations of the past twenty years—from VILLEMIN to KOCH,—we have been awakened out of the false security of believing in the innocuity of tubercle, and recognise the grave possibilities of its transmission from animals to man. Throughout the whole of the discussion there was hardly a dissentient voice against the contagiousness of tuberculosis. One speaker after another rose to affirm his belief in the dangers to the human race arising from the consumption of the milk and flesh of tuberculous animals—and this, too, from various countries,—so that it is not surprising that the Congress should have adopted resolutions aimed especially at the hygienic precautions to be taken in this respect. It recommends the inclusion of tuberculosis in the list of contagious diseases of animals, and the seizure and destruction of the flesh of every tubercular beast, no matter what may be its appearance. It declared that such resolutions were applicable to all lands, since in every part the question of tuberculosis presents the same problems. Moreover, the Congress urged the spread of popular instruction, especially in country districts, respecting the precautionary methods for preventing tubercular contagion, the risks which are run by the infection of meat and milk coming from tuberculous cattle, and the measures to be taken for the disinfection of materials derived from phthisical patients. Lastly, the Congress held it imperative that dairies and dairy farms should be rigidly inspected.

Thus, then, we have it categorically affirmed that tuberculosis is not only a contagious disease, but that one of its chief means of prevalence in mankind is by communication from animals of the bovine species. Yet, in spite of the evidence in favour of this view, the question is one which has not been absolutely proved. Experimentation has demonstrated without cavil that animals fed upon tubercular flesh, or inoculated with the virus or the bacillary cultures in every possible way, become victims to the disease. Morbid anatomy long since proved that within the body tubercle may spread from part to part by a process of infection. There are isolated cases of the accidental inoculation of human beings, with the resulting development of local tubercular lesions; and, lastly, there are a few instances where the disease has every appearance of having been directly transmitted from one individual to another. Nevertheless, the vast amount of tubercular disease, in one form or another, in which there is absolutely no evidence of its acquisition by infection, may well make us pause before assenting to propositions which of necessity imply that everywhere and in all circumstances the disease is transmissible by contagion.

At the same time, while recognising to the full the great lack of unimpeachable clinical evidence in support of the transference of tubercular disease from man to man, together with the grave obstacles in the way of measures to prevent contagion among the community, to say nothing of the inhumanity which would follow their adoption, it does seem highly rational to check the consumption of articles of food which are proved to be derived from tuberculous animals. It has been pointed out that thorough cooking would be a sufficient safeguard; but obviously legislation cannot supervise this process, it can only strike at the root of the evil. Several members of the Congress expressed the opinion that the State should indemnify farmers for the losses they would sustain by the adoption of the stamping-out method in a disease so common as bovine tuberculosis, and in equity this ought to be done. It is impossible to foretell what would be the effect of the adoption of such rigid measures as were urged so vehemently by the scientists. What, for instance, would be the influence of such legislation carried on for a generation upon the mortality from tubercular disease? Who can tell? It would be a gigantic scientific experiment, and the result would be eagerly watched for. It is possible that the measure would not be so successful in exterminating the scourge as might be wished, and this for the simple reasons that tubercular disease—and especially the most common of all, pulmonary phthisis—in man seems undoubtedly to require the presence of other factors than that of mere contagion, and that, even if all sources of contamination from animals were entirely shut off, there would yet be ample supplies of the tubercular virus to keep up the amount of phthisis in the world. Nor will there be wanting, we imagine, in view of all that was said at the Paris Congress respecting the harmfulness of consumption of flesh and milk, a claim for the universal adoption of vegetarianism as the simplest solution of the problem! Nevertheless, we regard the meeting of this Congress as very important. It has given an impetus to the study of tubercular diseases which must bear fruitful result. It has demonstrated how great is the change that has taken place in our conception of this class of disease, and we do not doubt that from every point of view—hygienic, therapeutic, surgical as well as medical, and pathological—much gain will accrue; whilst we may look forward to 1890, when the next meeting will take place under the presidency of M. VILLEMIN, in the hope that in all these respects a distinct advance will have been assured.

IN the August number of the *Nineteenth Century* Dr. CONAN DOYLE endeavours to determine the relative productivity in intellect of the different portions of the British islands. Taking as the standard of eminence such names as would be found in "Men of our Time" or a good biographical dictionary, he proceeds to ascertain their place of birth and descent, and the results of this novel inquiry are sufficiently interesting and important to engage the attention of our readers. The author of the article would, no doubt, be the first to admit that his method affords no sure basis for investigation and bristles with possibilities of fallacy; but, when his results are compared with one another and all possible corrections made, the conclusions may be granted a certain limited amount of probability.

The roll of honour finally selected for investigation, after eliminating mere local celebrities, is found to contain 1151 names, of whom 824 are English born, 157 Scottish, and 121 Irish, while 49 were born abroad. Of those included under the head of English, many were "of immediate Irish or Scottish extraction." Comparing these figures with the relative populations of the three kingdoms, it would appear that 1 in 31,000 Englishmen, 1 in 22,000 Scotchmen, and 1 in 49,000 Irishmen rise to distinction. If Wales be reckoned separately, the ratio of eminent men in the principality is 1 to 58,000. We need hardly point out that, in estimating the significance of these figures, race is only one, and possibly not the most influential, factor to be taken into account. Wealth, education, inherited facilities for attaining distinction—these are potent considerations influencing the output of great men.

When we come to consider the relative productivity of smaller areas in these islands, the results are curious and surprising. The lead is taken by the lowlands of Scotland, which have produced a long roll of illustrious men, with THOMAS CARLYLE at their head, the ratio of distinguished names to population being 1 in 18,500. Aberdeenshire comes next, and then the city of Dublin, which in proportion to population has produced more eminent men than London, although the metropolis also stands high. The most eminent of the Dublin names are BALFE, LECKY, and Lord WOLSELEY. The London roll of honour contains no less than 235 names, art and poetry being specially well represented; but it would appear that in nearly all the great departments of intellectual activity the provinces hold the premier place. "In science, the very weightiest names of the later Victorian era are DARWIN of Shrewsbury, OWEN of Lancaster, HOOKER of Suffolk, and TYNDALL of county Carlow. In art, LEIGHTON of Scarborough and MILLAIS from Southampton are second to none. HERBERT SPENCER of Derby stands a head and shoulders above his brother philosophers. TENNYSON of Lincolnshire leads the poets, as CARLYLE of Ecclefechan did the historians. In fiction, no one has yet arisen to dispute the pre-eminence of DICKENS of Portsmouth, GEORGE ELIOT of Warwickshire, and of THACKERAY, who was born at Calcutta." Yet the London list contains names of the highest rank. HUXLEY, BROWNING, RUSKIN, TURNER, LANDSEER, HOLMAN HUNT, TENNIEL, Cardinal NEWMAN, FREDERICK HARRISON, WILLIAM MORRIS, MACFARREN, Sir H. BISHOP, Sir ARTHUR SULLIVAN, and many other illustrious men, attest the claim of the metropolis to be reckoned a fertile nursing mother of genius and learning.

In the muster-roll of the counties the southern districts take the lead, the list being headed, somewhat unexpectedly, by Hampshire. Devonshire, Berkshire, and Sussex stand well; while Cornwall has a very low average—viz., one distinguished man to 45,000 of population. Next to the south, the eastern counties stand highest, Suffolk having a particularly brilliant record, being second only to Hampshire. The midland counties are remarkably sterile in famous men, their ratio being only 1 to 41,000, as compared with 1 to 23,000 for the southern counties. Hertfordshire, Worcestershire, and Staffordshire are the best of this division, Derbyshire being at the bottom of the list. It is very remarkable that both Oxfordshire and Cambridgeshire exhibit quite a low average of merit. The northern counties have an even poorer record than the midlands, their productivity in intellect being in the ratio of 1 to 43,000. Some of the northern names are, however, of quite first-rate excellence, the chief of them being ROBERT STEPHENSON and ELIZABETH BARRETT BROWNING.

We have already alluded to the commanding position taken by Scotland in this intellectual "march past." This is hardly surprising when we remember the wide diffusion of education north of the Tweed, and the love of knowledge and resolute perseverance which honourably characterise the people. It is worthy of note that the Scottish roll of honour is characterised by no special predominance in any one department, but furnishes us with names famous in every branch of human activity. Literature, art, science, exploration, and military life, all present names worthy of being held in everlasting remembrance. The city of Edinburgh alone has produced no less than forty-six worthies, which, in proportion to population, gives a ratio of famous men nearly three times as high as that of London.

Ireland falls below either of the sister kingdoms, but the high position occupied by Dublin shows that the Irish people are in no way deficient in intellect, and are capable of great achievements where the necessary educational opportunities are afforded. Munster falls slightly short of the average of the northern English counties; Ulster follows with a somewhat lower ratio of merit; while Connaught is hopelessly in the rear, forming, as Dr. DOYLE puts it, "the mental nadir" of these islands.

To generalise from the interesting array of facts thus presented would, we feel sure, be premature, if not entirely misleading, but some conclusions seem at least highly probable. We may conclude that Scotland holds the palm of intellect, that the southern and eastern districts of England take precedence of the midland and northern districts, and that the worst records are afforded by Cornwall and Connaught. It would appear that "the towns have a higher intellectual activity than the country, and that agricultural districts are usually richer in great men than manufacturing or mining parts."

It should be clearly understood that Dr. DOYLE'S figures relate solely to the output of distinguished men, and tell us nothing (except by inference) of the general average of education among the people in the various portions of this country. It would be interesting to inquire whether, in general, the productivity of any district in great men is in direct relation to the diffusion of knowledge among its population. Many of Dr. DOYLE'S facts would strongly support this view. It would also be important to determine how far wealth and leisure affect the output of talent, and what part is played by racial influence. We must leave these questions for the present.

THE discussion at Glasgow upon the value of inhalations in the treatment of pulmonary disease may be expected to do something towards crystallising the views of the profession on this important subject. Inhalations, though one of the most ancient of remedies, had fallen somewhat into disuse until the discoveries of KOCH gave a great impetus to their employment in phthisis. It is time for us to generalise

from the evidence gathered during the past few years, and to take stock of our present position.

Dr. THEODORE WILLIAMS, in his lucid and able opening address, pointed out that the general adoption of remedies administered *per primam viam* in the treatment of pulmonary disease was presumptive proof that inhalations—the most obvious and natural method of medication in such cases—had proved at all events insufficient. He proceeded to show that this method depended for its theoretical justification upon the amount of absorption which could be effected by the pulmonary area, and that some of the modes at present most popular were demonstrably ineffectual. Drugs volatile at low temperatures, such as chloroform and ether, are quickly absorbed by the lungs and produce their full physiological effect; but where steam, watery vapour, or spray is the vehicle of inhalation, absorption is very slow and imperfect. Dr. WILLIAMS failed to find any evidence of the absorption of iodine, one of the most favourite remedies in this department, but was more successful with turpentine. His general conclusion was that inhalations are valuable in affections of the upper air passages and larger bronchi, but that their utility in such deep-seated affections as capillary bronchitis and phthisis is at least very problematical. There were two objections to their use in phthisis: first, that hæmoptysis was rather frequently excited; and secondly, that the use of respirators impeded that freedom of respiration so essential to the consumptive, and, as Dr. WILLIAMS pithily expressed it, "made the patient feel like a muzzled dog."

The discussion which followed brought out considerable divergence of view, but, in bringing the proceedings to a close, Dr. WILLIAMS was able to claim that his conclusions had been substantially upheld. There was general agreement regarding the value of inhalations in pharyngeal, laryngeal, and bronchial affections, but a warm and vigorous debate arose around the question whether inhalations are of any service at all in phthisis, and whether their use is not fraught with grave disadvantages. Dr. COGHILL of Ventnor, whose name has been associated with this line of treatment, was still hopeful of discovering some agent capable of easy absorption by the lungs and effectual in phthisis, but he admitted that recent results had not justified his earlier hopes. His view was more or less endorsed by Dr. SMART of Edinburgh, Dr. SMITH of Netley, and others. On the other hand, inhalations in phthisis were wholly repudiated by Dr. DENISON of Colorado and Dr. LINDSAY of Belfast, upon grounds that go to the very root of the question. Dr. DENISON argued that, as reparation of the lung in phthisis was brought about by the development of fibroid material, it was highly probable that inhalations went to the open alveoli—i.e., to the healthy portions of the lung. Dr. LINDSAY urged that we have no satisfactory evidence of the power of any of our inhalations as at present administered to destroy the bacillus of tubercle; that, even if the bacillus could be thus destroyed, nothing would be thereby gained if the receptivity of the patient to fresh infection remained the same; and that the use of inhalations, inhaling chambers, &c., was likely to do harm, by rendering the patient indisposed for that course of vigorous hygiene admittedly so useful in phthisis.

Such discrepancies of opinion will not surprise those who have followed the rather remarkable history of the so-called antiseptic treatment of phthisis. That this treatment should receive a full trial was rendered imperative alike by the success of Listerism in surgery and by the general adoption of KOCH'S views upon the nature of tubercle. At first results were reported from the Continent and America so far exceeding the most sanguine expectations, that even cautious observers might have been excused for concluding that a new era in the treatment of tuberculosis had at length dawned. BERGEON'S treatment by rectal injection of sulphuretted hydrogen and carbonic acid made a great temporary impression, but it never had any success in this country, where it was received from the first with an amount of scepticism which seems now to have been amply justified. Antisepsis in phthisis is still upon its trial, and the most recent results are not encouraging to those who hoped great things from it. We are beginning to see that, even if its advantages were more certain than they can be fairly reckoned, it has certain unquestionable drawbacks which must be taken into account. If the consumptive patient learns to pin his faith to his inhaler or his antiseptic respirator, and neglects diet, exercise, and pulmonary discipline, it is not difficult to predict that his gain will bear but a small proportion to his loss. Amidst much confusion and uncertainty upon the subject, it seems hardly open to doubt that the consumptive needs, above all things, first, regular and vigorous expansion of the chest to improve the quality of the pulmonary tissue and to assist in the expulsion of morbid products, and, secondly, perfect purity of air to mitigate the local lesion and strengthen the constitutional condition. Whether any more efficient agent than those now in use may yet be discovered for administration by inhalation must be left to the future to decide, but we think the fundamental principles of treatment just enunciated are not likely to be overthrown by any advance in therapeutics that the future has in store for us.

THE Society or Association of Sanitary Inspectors is a body which has come into notice within the past five years, and which has risen into importance so rapidly, and yet so quietly, that it comes upon us as a fact almost before we have had the opportunity of knowing of its existence. Its membership, putting aside its honorary members, who do not strictly count, is confined to those who are, by profession or calling, the sanitary inspectors of the kingdom, acting under the direction of the medical officers of health. At one time these gentlemen were a mere disconnected uneducated body, serving simply as the servants, in sanitary work, of the medical officers. They had no examining board before which they could appear to prove their fitness for the duties they had to perform, and they held their positions in a manner that indicated nothing like organisation or the order that shows an approach to that unity out of which the professional spirit emanates. Now, however, an entire change has been introduced, and the inspectors have become, as we have said, a numerous and influential body of men. It is but fair to the Sanitary Institute of Great Britain to say that the foundation of this change was laid, by it, when it undertook to organise proper examinations for inspectors and surveyors, and to give a certificate or diploma to those who could pass its

examining board. It is true that the diploma conferred no legal licence, no corporate privilege; neither does it to this hour; but it has had an effect, which it maintains, of stimulating the candidates for it to work out of the ordinary sphere of their labour, and to seek a distinction which gives position, honour, and respect to those who possess it. In time a further advanced movement followed in a design for union for the common interests; and, under the influence of a few of the more enterprising members of the body, the Association has come into its present healthy and useful existence.

The Association was singularly fortunate at its beginning in securing for its President so distinguished and able a man as Mr. EDWIN CHADWICK, the veteran leader of the sanitary science of this century. There are not many men of eighty-four years of age who would have undertaken the task, and there are not many men of that advanced age who would have been invited to undertake it. But Mr. CHADWICK, on being invited, accepted the labour with positive alacrity, and for the past five years has been unceasing in his efforts on behalf of the Society. He has delivered each year at least one address remarkable for freshness of treatment and grasp of subject. At the meeting at Brighton, held on Saturday last, he was, it is true, absent in person in consequence of a temporary illness; but his address, read in his absence by Dr. RICHARDSON, was perhaps the most important of all he has ever delivered, sweeping over a field of observation as wide as sanitation itself. He opened with the question of the death-rates of England and Wales, and illustrated the great reduction in the death-rates that has resulted from sanitary measures. He showed upon this the money gain from the reduced mortality, putting the saving in the year 1887 at £7,635,000. Dealing analytically with these tremendous facts and figures, he was, however, careful enough to guard his enthusiasm. The results named were not all due to the sanitary work of man. In London some part of it was due to the sanitary work of nature and to climatic influences, which of themselves were potent agencies for good. "On the occurrence of a great thunderstorm, immediately after it has cleared away, there is an experience of a new and fresh atmosphere. It has done for a time what must be the constant work of good sanitation." But—and here came the practical inference—"good sanitation will do more than that permanently"—that is to say, when it has become permanently good.

From this point the theme of Mr. CHADWICK'S discourse was on "Good Sanitation," what it is, what it means, and what it can do. It *is*, when carried out as it should be, a system including the mastery of all the elements that lead to a healthy life in and through all classes of society. It *means* a permanent reduction of the death-rates of communities to such a figure that in large communities like London itself the mortality shall not exceed 15, and in favoured communities like Brighton 12, in 1000 annually. It means that under this reduced rate of deaths there shall be a proportionate reduction in the days of sickness; and it means a notable addition to the duration of human life. "A contractor," he tells us, "with enlarged and commensurate powers might contract for the reduction of the excessive death-rate of Manchester, now 27 per 1000, to 16 per 1000, and this reduction, as shown in the manufacturing town of Leek, will be attended with an augmentation of five years of the average duration of life and working ability. And at what cost? At a cost not above one-third of the insurance charges of the twenty-four millions of money annually paid by the wage classes of England to provide against excessive sickness and premature mortality; perhaps not above one-third of the insurance charges against sickness and mortality enforced by a special executive machinery invented by Prince BISMARCK in Germany." As to that which sanitation *can do*, on the principles laid down for it by the Nestor of sanitary science, we must pause before we speak. In one such article as this we could not touch the fringe of the subject with any satisfactory effect. We leave it therefore for to-day in order to dwell on two special points in the address which are undoubtedly practical. Speaking of the Malthusian doctrine, that great epidemics reduce populations, Mr. CHADWICK declares the whole argument to be an egregious error. Pestilence, he affirms, is, on demonstrable evidence, attended by a rapid augmentation of births, does not reduce the number of populations, but only weakens them, and augments the proportions of dependent pauperism. The second point relates to mortalities pertaining to different classes of the communities of cities and towns. Amongst the few well-to-do persons in Brighton, for example, the death-rate of children under five years of age is 8·93 per 1000; but amongst the many not well-to-do, the death-rate of children under five is 45·44, or over five times more. For the few, the well-to-do, in the same place, the mean age of all who die—men, women, and children—is sixty-three years, a very high average; but amongst the many, the not well-to-do, the mean age is only 28·8 years. Dr. RICHARDSON made useful reference to these remarkable comparisons in his speech later on upon Dr. EWART'S paper on the Health of Brighton, and if no other fact had come out of the learned and venerable President's address, this would alone have signalised it. As a whole, it ranks as an effort that must remain like a light always burning in the temple of health.

THE most pressing public health questions in the kingdom of Hawaii are those relating to the prevalence and possible extension of leprosy and of syphilis. According to Dr. N. B. EMERSON, President of the Board of Health, leprosy was first ascertained to exist in that country about the year 1840, in the person of a messenger of the chiefs, who had the disease for about ten years before his death in 1852. In 1863 a minister ascertained, through the deacons of his church, the existence of fifty people who were affected with the disease; in 1868 a report was presented to the Government as to 274 known cases; and it is stated that since that date the disease has made fearful strides in the various islands making up the kingdom. Some 1500 cases are now known to the Government. The need for segregation of the affected ones led to the establishment of the leper settlements, but, notwithstanding this, it was estimated on March 31st, 1888, that over 640 lepers still remained at large. Indeed, the difficulties attendant on the compulsory removal of lepers from their families, and the miserable prospect which those thus removed have before them, have

doubtless operated to retard compulsory measures, and to prevent the discovery of the disease amongst those who are only slightly affected. But the need for absolute and maintained isolation is strongly insisted on as a necessary means of ridding the kingdom of the terrible scourge; indeed, there is in Hawaii the strongest conviction that the disease is capable of communication from the body of an affected person to those who come in more or less intimate contact with him. Dr. EMERSON says that no physician who has carefully studied the natural history of leprosy in the Hawaiian Islands can offer any other satisfactory explanation of its spread among the people than that involved in the communicability of the infection.

One great obstacle in carrying out the law as to segregation is the persistent opposition met with on the part of the Hawaiians themselves, who cannot be induced to see that a leper should be shunned as the bearer of a deadly disease. A fatal sentimentality exists in them, according to Dr. EMERSON, which bids defiance to every attempt at prevention. Marriages between leprous and non-leprous persons are freely contracted, and the most reprehensible intimacies are not prevented by the fact of patent evidences of the disease; and unless the instinct of self-preservation can in some way be awakened in these people, it is, under present circumstances, difficult to see how the race is to be rescued from the increasing power of a loathsome and fatal malady.

As to a remedy, it is held that none is known. But the Government are extremely anxious to put every properly substantiated profession as to cure to the test, and communications were at the commencement of the year in progress with a view of securing the services of a physician who is conversant with, and who will supervise, the method of treatment advocated by Dr. P. G. UNNA of Hamburg. It is also felt that any attempt at cure must be carried out under the most favourable circumstances, and it is proposed that a thoroughly efficient establishment for the purpose should be erected in one of the most salubrious localities in the islands.

As bearing upon the lethargic attitude of the population in the face of leprosy, and upon the indifference with which the hitherto healthy contract marriages with lepers, the state of the Hawaiian kingdom in the matter of syphilis and the moral tone of the natives deserves some consideration. These points have been reported on by several of the Government physicians in connexion with the subject of the lack of proper increase in the population; and whilst there is much difference of opinion as to whether syphilis is increasing or has undergone some diminution within recent years, yet it seems evident that some of its effects, such as weakened vitality and sterility, are commonly prevalent. Then, again, there is a great predominance in the number of male inhabitants, and particularly of male Chinese, a large amount of promiscuous sexual intercourse, and a condition of general licentiousness amongst the women, which, together with an attitude of indolence, make it extremely difficult to raise the tone of the people to a standard which will secure a personal interest in withstanding the onset of communicable or hereditary disease. One physician has also reported that amongst the causes tending to prevent an increase of population in Hawaii fœticide must be regarded as holding a prominent position. He states that very few children of unmixed Hawaiian blood are born alive, and scarcely more of the half-castes. Abortions are, he fears, most common; and he adds that the first lesson learned from her elders by the young girl on arriving at the age of puberty is how to avoid conception, and, if unsuccessful in accomplishing that object, how to "expel the fruit of her womb in its unripe state." It is fair to these people to recall the fact that outside influence must have largely contributed to a condition of things which in some parts of the kingdom has admittedly reached a stage of demoralisation associated with disease and early death. In such localities the Hawaiians are surrounded on all sides by large sugar plantations where the labour of all nationalities is employed, and to which men who bring no wives with them tend to flock; and it is prominently urged that syphilis was not indigenous to the country, but that "it entered as a white man's disease."

The task which the Board of Health have before them in respect to the eradication of leprosy is rendered all the more difficult by reason of these conditions and of the social influences which they have already exercised on the natives of the kingdom. But it is impossible to read the health reports submitted to the Hawaiian Legislature without feeling convinced that those who are responsible for advising that Government as to the measures which should be adopted in order to control the spread of leprosy, and generally to raise the standard of public health in the kingdom, are in real earnest; and that whilst they are fully convinced that strong measures are necessary in the direction of the segregation of lepers, they desire so to mature their plans as to avoid all unnecessary hardship, and to bring to bear upon the population the benefit of any such remedial measures as give any reasonable chance of ultimate success.

Annotations.

"Ne quid nimis."

THE PUBLIC HEALTH IN IRELAND.

IT appears from the last quarterly return recently issued by the Registrar-General of Ireland that during the three months ending June last the annual birth-rate was equal to 24·1 and the death-rate to 19·2 per 1000 of the estimated population. The birth-rate was 7·3 below, while the death-rate exceeded by 1·7, the rates that prevailed during the same period in England and Wales. Thus, while the natural increase of population by excess of births over deaths was 13·4 per 1000 in England and Wales, it did not exceed 4·9 in Ireland. It appears, indeed, that, if emigration be taken into account, there was in the second quarter of this year an actual decrease of population amounting to 37,047. The birth-rate in Ireland was 1·9 and the death-rate 0·8 below the mean rate in the two preceding corresponding quarters. It is satisfactory to learn that the amount both of in-door and of out-door pauperism also showed a decline; the proportion of the population in receipt of in-door and out-door pauper relief during the three months ending with June was 23·4 per 1000 in Ireland, against 25·5 in England and Wales. The annual death-rate in Ireland last quarter, which was, as above stated, 19·2 per 1000, varied in the different provinces from 13·7 in Connaught to 20·2 in Leinster; and the county rates ranged from 12·9 and 13·4 in Donegal and Galway to 21·6 in Wexford and 22·9 in Antrim. It is ex-

plained, however, in the return before us, that, whereas the population for the whole of Ireland is estimated from the excess of births over deaths and the emigration returns, the rates for the provinces and counties are calculated upon the populations enumerated in 1881, and, as the population of Ireland has continuously declined since 1881, all these rates are consequently understated. The annual rate of mortality from the principal zymotic diseases in Ireland in the second quarter of this year was equal to 1·5 per 1000 living, and was considerably below the average, although it was 0·2 in excess of the English rate. This excess would appear much larger if due correction were made for the exceptionally small proportion of children in the Irish population. The deaths from the principal zymotic diseases in Ireland last quarter were not only below the average for the corresponding quarter, but also showed a considerable decline from the numbers in the first quarter of the year. Compared with the mortality in England, that from measles, scarlet fever, and "fever" showed an excess, while that from whooping-cough, diarrhœa, and diphtheria was lower. The excess of "fever" mortality was mainly due to the fact that 135 deaths from typhus were registered, whereas the disease is rapidly becoming extinct in England. No death from small-pox was registered during the quarter. Perhaps the most satisfactory feature of the mortality statistics of Ireland is the low rate of infant mortality. The deaths of infants aged under one year were equal to 99 per 1000 of the registered births, against 121 in England and Wales; this low rate is probably mainly due to the small proportion of urban population in Ireland, for we find that the rate was equal to 134 in Dublin, 125 in Belfast, and 129 in all the urban sanitary districts, and only 88 in the rural sanitary districts. The abnormal age-constitution of the Irish population, due to the long-continued exodus of the young adults and the consequent small proportion of young children, is well exemplified by the fact that in the second quarter of this year 40 per cent. of the deaths in Ireland were of persons aged upwards of sixty years, while in England and Wales the proportion did not exceed 29 per cent. It must not be assumed from this that the duration of life is longer in Ireland than in England, although it supplies a good reason for not attempting a thorough comparison of mortality statistics in these two parts of the United Kingdom without making due correction for the different age-distribution of the two populations.

A QUINQUENNIAL CENSUS.

IT is satisfactory to find that our long-continued advocacy of the increasing necessity for a quinquennial census in this country at last shows signs of securing public support. We are glad to see the importance of the subject enforced by letters from medical officers of health, who labour under serious practical disabilities from the impossibility of estimating satisfactorily the population of their districts under present circumstances; whilst the recognition by the lay press of the necessity for a quinquennial enumeration may be regarded as a good augury of its being eventually carried out. While, however, we hail with satisfaction all the support that the intrinsic merits of the proposal deserves, we would warn its advocates to be moderate in their requisition for a large extension of the field of census inquiry, lest the injudicious demands of "crotchet-mongers" should fatally injure the prospect of the census reform. The desires of people "wanting to know" may be legitimate enough, but it is inevitable that the authority responsible for the success of the census operation should seriously consider rather what is practicable under the English system of census-taking than what it may be desirable to know. In the first place, it should be remembered that in England the filling up of census schedules is left to householders (a large majority of whom are at best very imperfectly educated), who, in a country like this, are apt to resent as impertinent any but the simplest inquiries; hence inquiries probing too closely the question of social status, for instance, would probably meet with the same opposition that has always met the proposition for a religious census, or with the failure resulting from inquiries concerning idiocy and deaf-mutism. In the second place, it must not be forgotten that the collection of an English census is begun and ended in one day, and that any serious extension of the field of inquiry would either necessitate the surrender of this feature of our enumeration or would imperatively demand a very serious increase of the army of enumerators, which at recent censuses numbered from 30,000 to 40,000. In countries under imperial *régime* the census operation is not confined to a single day; the information is, moreover, effected by police organisation, the people being more or less accustomed to have information of an inquisitorial nature officially demanded. Hence the possibility of fuller detail in the census inquiry under despotic governments. Those who demand a similar extension in this country must be prepared to face both popular opposition and the necessity for an entire change of census machinery. Moreover, we would take this opportunity to urge that the true value of statistics must always depend much more upon the trustworthiness of the facts upon which they are based, than on the multitude of detail with which they profess to deal. There can be no question about the value of a quinquennial census, and we should much regret that any chance there may be of effecting this desirable reform should be imperilled by a simultaneous demand for an unlimited extension of the scope of the inquiry, in order to meet the desires of persons "wanting to know," or rather wishing for, "figures," without sufficient regard to the possibility of securing that such figures may be really trustworthy.

CHLORATE OF POTASH IN EPITHELIOMA.

M. RECLUS has recently revived an old plan, somewhat in vogue forty years ago, of treating epithelioma of the skin by means of chlorate of potash, and is disposed to think that while this plan cannot be recommended wholesale as a substitute for excision, there are cases which, operative measures being, for one reason or another, inadvisable or impossible, may be satisfactorily treated in this way. One main point to be taken into consideration is the rapidity of growth. In order that chlorate of potash may have any chance of success, it must be employed for a considerable time. It is therefore only suitable in cases where the growth of the tumour is slow. Dr. Lemoine of Lille also has reported two cases of epithelioma, or cancroid, as he calls it, where chlorate of potash was employed with eminent success. In one case the tumour occurred in an old woman, occupying a large part of the left cheek, there being three enlarged glands at the angle of the jaw, and the skin around the ulcerated growth being tense, shining, and of a purple colour. Half a drachm of chlorate of potash was given daily, compresses soaked in a solution being also applied to the cheek, and a large pinch of the powdered salt being sprinkled over the surface of the tumour twice daily. The discharge of ichor, which had been abundant, soon began to diminish, and in about three weeks signs of improvement began to show themselves round the edges of the ulcer; in six weeks' time the diameter of the ulcer had diminished from 8 centim. to 4 centim., the surface having become hard and dry, like that of a scirrhus, and the epidermis spreading over it a little more each day. The glands had become smaller; in eight weeks the surface had completely healed over. The internal administration was continued for a fortnight longer; since that time—some nine months before the report was made—no return of the

signs of the disease had occurred. The second case was an epithelioma of the great toe, which had lasted about two years. This was treated by the internal administration of chlorate of potash and by its local application for about ten weeks, at the end of which time complete recovery is stated to have taken place. Unlike Dr. Lemoine, M. Reclus confines himself to the external application of the chlorate of potash. He finds that this is not suitable for cases where the growth affects the mucous membrane, because of the greater depth to which it generally penetrates under these circumstances. It acts best where the tumour is confined to the skin; but it may be employed where the junction of the mucous membrane with the skin is affected.

PRIVATE BILL LEGISLATION.

IT is much to be hoped that the report of the Committee upon Private Bill Legislation will lead to some improvements in the mode of carrying through Parliament measures of such a class as take the form of local Acts. The burdensome nature of the expense and litigation involved in the existing methods has been made abundantly clear, and received not only the most striking illustration in the evidence submitted, but also the emphatic testimony of the Commissioners in the report which they have drawn up. "The expense," they say, "incurred by promoters and opponents of schemes in Parliament is undoubtedly great. Many statements from Scotland and from Ireland have been laid before the Committee illustrating the actual cost of private Bill legislation, particularly of municipal legislation, and the items into which it may be resolved. It is asserted that it has the effect not only of preventing poor opponents from coming forward, but also of suppressing proposals for small undertakings." Having regard to the figures to which reference is here made, one cannot doubt that many "small undertakings" are indeed most effectually suppressed. Thus we have it on the authority of Mr. F. W. Pine, a representative of the Dublin Chamber of Commerce, that the cost to a company in that city of passing a small Act consisting of a single clause, which, moreover, was unopposed, was approximately £1800, and that subsequent Acts necessary to make this one available cost a further sum of £1200. In another instance, the city of Cork, having obtained parliamentary powers to erect a bridge, spent £500 more than the authorised sum, and were compelled, therefore, to come to Parliament for the additional powers; and, said the witness, "they had to spend £450 for a Bill to get leave to spend that £500." The great advances which have been made in recent years, and which will be made in the near future, in sanitary science, render this question one of very special importance. Recourse to Parliament for the purpose of getting parliamentary powers to carry out sanitary improvements ought to be possible to the smallest township in the land. But this is clearly out of the question while the scale of expenditure on private Bills remains what it is at present. The Committee does not appear to be very sanguine of achieving any great success in the direction of cheapening this procedure. For our part, we fully share the opinion suggested in the report, that the time has come when "some more comprehensive reform of private business than any that has been adopted since the introduction of the present system of committees in 1837" should be undertaken. But we doubt whether the committee has been bold enough in the steps which it has been prepared to advise. A permanent tribunal would no doubt have many advantages over committees constituted as occasion arises, but it would have *les défauts de ses qualités*, and not the least of these would be that tendency to run into a groove to which, as illustrated in the case of the Police and Sanitary Committee, Lord Grimthorpe bore striking testimony. The story which he told was so apt, and, notwithstanding the deep disguise in which he veiled it, so pointed, that it may well be reproduced: "At the end of the case the chairman made a longish speech, and another member of the committee also made a speech. The chairman stated his views very strongly in favour of a certain thing which they had put into the Bill against the wishes of a body of doctors. ..... The body of doctors were not called, but the chairman treated their objection as entirely absurd and contrary to what he called 'his experience.' ..... Another member of the committee said that he knew a certain town where this thing had been going on for some time and had answered perfectly. Now, according to the papers sent to me, that member was entirely wrong. In that town, of which I have the statistics, the system was entirely different in that point which the doctors were contending for. And the statistics about diseases from a great number of towns rather contradict than support the chairman's theory which he calls experience. That shows what is the consequence of having a standing body to act in a matter not of law but of discretion. The chairman is probably and rightly a strong man, and very likely that means that he has strong views. Upon a man of this kind you may pour in sufficient evidence to fill sixteen Blue-books, and you would make no impression upon him, especially if he has any professional knowledge or position. ..... That, practically, does not happen in other committees of either the House of Lords or the House of Commons. Sometimes it may happen that the chairman will endeavour to act upon his own views, but by degrees this gets corrected by his having a fluctuating set of colleagues. But if you have a standing committee with a strong chairman the world is obliged to swallow his dose, and that is a system I greatly object to." About the "certain thing" and its merits we have no information, and therefore can form no opinion, but we are glad to find ourselves, as to the general proposition, in agreement with Lord Grimthorpe, and to avail ourselves of his trenchant statement of an important aspect of the question under discussion.

ACUTE PHTHISIS IN A YOUNG CHILD.

THE ways of tuberculosis in children are strange, and demand a much more careful clinical exposition than they have yet received. We want in medicine generally, and in this branch of it especially, to imitate the lawyers more, and to produce a literature of "cases." The late Dr. Hillier's book is an admirable illustration of the kind of book we need, in which general remarks are fortified by an abundant admixture of histories of actual cases. We give below, from the Reports of the New York Pathological Society, the particulars of an interesting case of acute phthisis in a female child, thirteen months old, a foundling treated in the New York Foundling Asylum, on April 22nd, for severe indigestion and diarrhœa of three days' standing, which soon yielded to treatment. On May 17th the child returned with motor paralysis of the entire left side, including the face; dilatation of the left pupil; no paralysis of sensation; moderate diarrhœa; left otorrhœa; temperature 100° F. Six days later the left hemiplegia continued, and there was in addition loss of power of the right leg. During the next ten days motion slowly returned to the left arm and leg. On the 30th the child was admitted. The cervical, epitrochlear, and inguinal glands were enlarged; there was ptosis of the left lid, and the child refused food. On the 8th of June it was much worse; respiration rapid and laboured. There was dulness on percussion, anteriorly and posteriorly, on the right side; and the respiratory sounds were absent over the whole lung. There was no retraction of intercostal spaces, but diminution on movement of the chest wall. The left side was tympanitic on percussion, and bronchial breathing and coarse bronchial râles were heard; there was marked retrac-

tion of the intercostal spaces; temperature 104° F. For four days she remained unchanged, and died in a state of collapse on June 12th. We give the necropsy, made two hours after death, in the words of the report: "Child fairly well nourished. The brain was markedly anæmic, but otherwise normal. There was a small amount of bloody serum in the pleural cavity. On the right side the superior portion was collapsed and the inferior portion entirely occupied by a large tuberculous deposit, which at several points had broken down into small cavities. Costal pleura normal; pulmonary pleura thickly studied with miliary tubercles. On the left side there were abundant pleuritic adhesions over the anterior and lateral surfaces of the lung, binding it closely to the chest wall. In the substance of the entire lung were many deposits of yellow, caseous, tuberculous material, varying in size and consistency. The lymphatic system was largely involved. The cervical, bronchial, retro-peritoneal, inguinal, and epitrochlear glands were all much enlarged and caseous, and many were diffluent at their centres. The liver was anæmic and fatty." The author, Dr. J. J. Griffiths, thought the chief points of interest were—(1) the absence of cerebral lesions; (2) the fact that such extensive tubercular deposits were entirely confined to the lungs and lymphatic system; and (3) that in this case the epitrochlear enlargement was due to tubercle, and not to syphilis. A fourth point appears to us of much interest: the disappearance of the motor paralysis of the left arm and leg.

A CORONER ON CHEMISTS PRESCRIBING FOR CHILDREN.

MR. A. BRAXTON HICKS did his duty as coroner at the inquest on the child of Frank Ernest Rands, in denouncing the way in which sick children are often treated by their parents. First, the chemist is consulted when the child is dangerously ill or dying; and, as in this case, after death the doctor is sent for. Finally, the coroner has to be sent for, and he and the jury often find that death has been caused by some want of proper treatment, or for want of good advice as to diet. This poor child, always delicate, was taken ill on Sunday. The mother took him to a chemist, who prescribed a bottle of medicine and two powders. She found him dead on Tuesday morning, and then called in the doctor. All that remained was to make a post-mortem examination. He found great distension of the stomach, which he thought had caused syncope and death. The child had been improperly fed on corn-flour. The chemist who prescribed was unqualified even as a chemist, and was acting for his brother. The coroner's words should be put on record: "No doubt it is a great advantage to poor people to be able to run into a chemist's to get something in a hurry, but if a chemist prescribes wrongly he must take the risk of it. If a grown person chooses to commit suicide, so to speak, by going to a chemist instead of a doctor, that is his own look out, but I do not think that chemists have any right to interfere in the case of children at all. The sooner the practice is stopped the better. While a child is alive parents go to chemists, and to a doctor after it is dead, the consequence being that the coroner has to intervene." The chemist promised to be very particular in future. Let us hope all chemists will come to the same wholesome resolution. The detection of children's diseases is a matter of much difficulty. It may be said that infantile diarrhœa is a simple thing to consult a doctor about. But it killed this child; and a large number of the deaths in any given week of the summer are from this cause. They require the very best medical advice that can be obtained. If chemists cannot be expected to understand disease, they might at any rate be expected to know the gravity of infantile diarrhœa, which is one of the deadliest diseases we have now to cope with. Mr. Braxton Hicks deserves the thanks of the public for speaking plainly on this subject and resolving to have such cases investigated. It is monstrous, of course, that a coroner's time and that of a jury should need to be so used, and Mr. Hicks seemed to feel this. It is equally monstrous that medical men should be called on, not to avert death, but only in time to make a post-mortem examination.

ACETIC ACID AS A DISINFECTANT IN MIDWIFERY.

DR. F. ENGELMANN, being much impressed by the numerous fatal cases which are constantly occurring from the employment of intra-uterine injections in obstetrical practice, and feeling that there is doubt whether they ought not to be given up, brings before the profession another antiseptic which he has used for the last two years in a large number of cases, and which has given him excellent results—acetic acid. Some years ago he was led to use and to recommend the employment of acetic acid in diphtheria, and he is convinced that it possesses antiseptic properties in as high a degree as carbolic acid itself, and has at the same time the great advantage of being non-injurious, even when used in a tolerably concentrated form; besides, it has a decidedly styptic effect, and this is an additional advantage in obstetric practice. Again, acetic acid is very diffusible, thus penetrating the tissues to a much greater extent than most other antiseptics. Corrosive sublimate, as is well known, forms insoluble albuminoid compounds on the surface, and thus does not act upon the deeper parts of the tissues. In one respect acetic acid is similar to corrosive sublimate—viz., in its action on instruments; but the latter is the more prejudicial of the two. The forceps may remain for a quarter of an hour in a 3 per cent. solution of acetic acid without being injured. The irrigator is, however, liable to be affected by the prolonged use of acetic acid solutions. It should be remarked that the hands must be washed twice after using acetic acid, as of course soap will not dissolve where this is present. The skin is rendered peculiarly soft and pleasant to the feel. As to the strength to be used, Dr. Engelmann as a rule employs a 3 per cent. solution, but he has sometimes employed a solution as strong as 5 per cent.; this, however, is apt to cause a smarting sensation in any spot where the surface is broken. All the cases in which acetic acid was used recovered without abnormal rise of temperature.

AMBULANCES.

THE jury at an inquest recently held appear to have expressed surprise that no ambulance was kept at the hospital (King's College) at which the inquiry took place. We believe that this hospital is not alone in this respect; in fact, with the exception of St. Mary's and Charing-cross (at which institution an ambulance is provided for accidents), no general London hospital undertakes to fetch patients, however ready it may be to receive and treat them. There is a very great tendency on the part of the public in the present day to hold hospitals responsible for the care of the sick and injured even before they apply for relief, and that without reference to the question of expense. To keep an ambulance *would* involve extra expense, even though the carriage were only a manual one, for it would be necessary to send a man with it, and also supply his place whilst absent. This expense would of course be much increased if a horse ambulance were kept, as the horse must be hired if not owned. But, apart from this question of cost, the ambulances would be much better in the hands of the police, and this for several reasons. At every police station there is already an ambulance as part of the

equipment of the station, and this is available for use under certain conditions in cases of illness, always in the event of accident. The police are early on the spot in cases of accidents, and can readily communicate with the station. There are several of these stations in the area around the various hospitals, and in many instances an ambulance kept at a hospital would be quite unable to meet the numerous calls which would be made upon it. There are, however, occasions on which something more comfortable than the police ambulance is required, and we do not think that the hospitals will any of them refuse to keep such an ambulance if the public think it advisable; but let the public supply the carriage, and maintain it when supplied. Another way would be to make the various parishes, who are responsible for the poor, responsible also for the safe conveyance of the poor in illness when seeking relief in institutions where they are treated without cost to the ratepayers. For the use of the well-to-do, various companies are willing to supply ambulances or invalid carriages on moderate terms.

EQUINIA IN SWITZERLAND.

A CORRESPONDENT writes from Geneva:—"The rural district of Vandœuvres has been thrown into consternation by cases of glanders (*morve chevaline*, as the local physicians call it) in the human subject, two of them having already terminated fatally. The facts are these. A prominent landed proprietor had, a year or two ago, purchased a horse which, to all appearance, was sound in wind and limb, and up to within the last few weeks betrayed no sign of any malady. In June, however, one of the grooms (Bouvier by name) was taken ill, and had to go to the hospital, where he was pronounced to be suffering from severe whitlow. Instead of getting well, he rapidly became worse; but, probably from his exceptionally good constitution, he is regarded as not unlikely to recover. His successor (one Dupuis) was little more than a fortnight in service when he too sickened, and, after fourteen days' acute suffering, died. By this time suspicion was aroused as to the horse—the general opinion being that it was glandered. Presently Dupuis' father, who, from occasionally helping in the stables, took his son's place, became ill also. The physician, who had been struck with the unusual symptoms in Dupuis *fils*, as to which he could not make up his mind, on recognising the same presenting themselves in the father, called in two colleagues in consultation. The opinion arrived at was that father as well as son had contracted the contagion of *morve chevaline* in its most malignant and rarely curable form; and, indeed, Dupuis *père* soon succumbed, after some days of great suffering. Bouvier, the first attacked, still struggles with the malady, but, as already said, is considered as in a not quite hopeless condition. At the instance of its owner the horse was slaughtered, and the post-mortem examination placed the fact of its suffering from glanders beyond doubt. What adds to the popular alarm is the existence of the same symptoms, though of a less pronounced kind, in other horses of the neighbourhood."

SNAKE-BITE AND YELLOW FEVER.

DR. URIAS DA SILVEIRA has sent to the Medico-Chirurgical Society of Rio de Janeiro a quantity of a vegetable substance which is very common in the provinces—Minas geraes and Barra mansa,—and which, he says, he has used with great advantage in the bites of cobras, especially during the period in which the most serious symptoms—hæmorrhages and ataxo-adynamic phenomena—appeared. He points out analogies between the effects of snake-bite and of yellow fever, both of a symptomatic and pathological nature, and suggests that the drug he sent should be tried in cases of yellow fever.

THE SANITARY STATE OF ELEMENTARY SCHOOLS.

THE Secretary to the State Board of Health of the State of Maine occupied himself largely during the past year in making an inspection of the sanitary state of school-houses. The buildings visited are described by Dr. A. G. Young in much detail, and a few rules bearing on the construction and use of schools may be deduced from the report. He regards the best shape for a school-room to be that of a parallelogram, the width of which is as three is to four, with the teacher's desk at one end; the ceiling to be at least 12 feet above the floor. Each scholar should, in his opinion, have at least 20 square feet of floor space, and 240 cubic feet of area. In this respect we may refer to the very mild demands which are made of school authorities in this country, for the Education Department of the Privy Council, in dealing with a requirement that the school premises must be "healthy," add: "In administering this article, the department will endeavour to secure at least 80 cubic feet of internal space and 8 square feet of internal area for each unit of average attendance." Dr. Young further asks that the window surface shall be at least one-sixth as great as the floor space, that the window-sills shall be some three and a half to four feet from the floor, and that the tops of the windows shall extend to the ceiling; and, in the matter of lighting, he holds that the light should come preferably from the left and back of the scholars, or, where the room is not too wide, from the left only. Lighting from both the right and left sides is, in his opinion, at times permissible, but it should never be effected by windows from the front. The black boards should always be placed opposite the windows, and never between them. As to ventilation of a school-room, he regards it as desirable to supply from 30 to 35 cubic feet of fresh air per minute for each scholar.

POISONING BY ICE-CREAM.

EVERY summer the medical practitioner is brought in contact with cases of enteric disease occurring in children, and presenting some of the symptoms of typhoid fever, but lacking other characteristic features. Some error of diet is usually assigned as the active cause, but in what this error consists is often very uncertain. One such cause was lately exposed at an inquest held in St. Pancras Coroner's Court. The facts of the case were as follows. A child aged three years and a half was sent by her mother to buy ice-cream from a street stall. She, her mother, and two other children partook of the dainty, and shortly afterwards all, with the exception of the mother, who presumably took less than the children, were seized with signs of illness. Speedy vomiting relieved the two other children, but the subject of the inquest, who was not taken ill till the next day, passed through the stages of a fatal enteritis. In her case there were also paralytic signs resembling those of lead poisoning. What was here the precise element of mischief cannot now be clearly ascertained, but, with due allowance for other possible causes, there can be no reasonable doubt that the ice-cream was in some way accountable for the fatal result. A suggestion by one of the jury on the present occasion, that the leaden or pewter pot in which the mixture sold as penny ices is commonly kept might have had a hurtful effect, is worthy of note. The formation of a poisonous lead salt would be the more probable if the pot were not regularly cleansed, or if sour milk had been used in making the ices. Either or both of these conditions might easily have existed, and certainly the evidence of a typhoid or pseudo-typhoid state is enough to suggest a fermentative action in the material of the ice itself. This occurrence teaches its obvious lessons. It conveys a needed warning to parents that cheap ices are as unreliable as they are unfortunately

popular. We reported some years ago (THE LANCET, Oct. 18th, 1879) the results of an investigation by our Commissioner into the conditions under which these street luxuries were manufactured, and the dirty and unwholesome habits and dwelling-places of the persons, mostly foreigners, engaged in their preparation. We may here reproduce the concluding sentence of that report: "Finally, the milk, the eggs, the corn-flour mixtures, &c., used to make the penny ices, are left standing in the foulest dens, where they must absorb the noxious gases that infect the atmosphere, and where they are boiled and mixed in the same saucepans and cauldrons in which the Italians scald and wash their dirty linen."

PUBLIC HEALTH IN AUSTRALIA.

WE learn from Melbourne that the Government, impressed with the growing importance of the adoption of sound principles of public health in the future, have appointed a Sanitary Commission, and have in prospect an Amending Health Bill. The *Australian Medical Journal*, whilst noting these measures with satisfaction, urges that it will be essential to the success of this action on the part of the Government that steps should be taken to bring home to the people themselves the first principles of public health, such education being necessary to a proper apprehension of the subject; and they propose that lectures should be delivered in different parts of the colony by teachers who are capable of imparting the needed information in a form which would lead to practical results; and in support of their contention they point to the advantages which have resulted from the discussion of questions of public health by voluntary associations and societies in this country.

PHLOGOGEN SECRETED BY GERMS.

M. ARLOING has made observations on a phlogogenic matter secreted by certain microbes, especially those of contagious peri-pneumonia cultivated on bouillon of sterilised beef and on potato. In cultures on gelatine at 45° C. this microbe secretes a substance which, injected into the connective tissue, excites inflammation and fever, often followed by death. In the exudation this phlogogen is found again in abundance. The liquid has the appearance of a citrine-like serosity, and, treated with absolute alcohol, gives a white clot-like precipitate which is easily redissolved in water. Obtained in a state of purity, it presents a yellowish aspect in the dry state and a viscous consistence if still liquid. The chemical characters of this substance are similar to those of the diastatic ferment, pepsin. In contact with cane sugar, it gives a precipitate with the cupro-potassic solution. Animals do not secure protection by injections of this phlogogen, since the same series of events occur in the same animal, no matter how many times the material may be injected. But some animals—e.g., rabbits and guinea-pigs—enjoy a specific immunity from its effects.

QUACKERY IN NEW SOUTH WALES.

WE have been favoured with a letter on this subject by Mr. John S. Wilson, of Kiama, New South Wales. He complains particularly of the extent to which unqualified assistants are employed and "covered" by qualified medical men, and of some of the methods by which qualified medical men court practice and seek to ingratiate themselves with the public. One bad practice he thinks peculiar to Australia—that of tendering for clubs. There is also an absence of rules excluding the well-to-do from medical clubs, which tends to demoralise and pauperise the members. They are extensively worked, our correspondent says, by unqualified assistants. The qualified and registered "cover" is apt to advertise largely in all the local and district papers, uses most letters of the alphabet as titles in such advertisements, and leaves it to be inferred that those he does not use will apply to his unqualified assistant. Mr. Wilson's letter is too long for insertion, but we have given its principal points. The evils he laments are unfortunately not confined to Australia. The profession must face them, and discourage and discountenance all those who practise them. The Medical Council in England has condemned strongly, as Mr. Wilson points out, the use of unqualified assistants in responsible positions. They have not yet removed a "cover" from the Register; but, if the evil be not corrected, it is quite possible that they may do so.

FEES AND THE SERVICES OF UNQUALIFIED ASSISTANTS.

AT a recent inquest in Jarrow, which we should have noticed sooner, the coroner, Mr. Graham, disallowed the fee for medical evidence under the following circumstances. The child whose death was the subject of the inquest had been attended by the unqualified assistant of Mr. McCleish—Mr. Thompson. He certified that the child died of bronchitis, and signed himself "Dr." Thompson "because he was in the habit of doing so." So the report reads in the *Newcastle Daily Leader*. The coroner refused to take the certificate because of Mr. Thompson being unqualified. Mr. McCleish stated that he had not seen the child till after death. The coroner said that if Mr. McCleish employed an unqualified assistant, he at least ought to supervise his work. He said that, to mark the irregularity, he would not allow the fee. Mr. McCleish said he had better give up altogether. The coroner said, "You can please yourself about that." This is a rather brusque way of putting it, and we are sorry for the position in which Mr. McCleish placed himself. But it is difficult to see what other view the coroner could have taken.

AMBLYOPIA FROM SYMMETRICAL LESIONS.

PROFOUND AMBLYOPIA without ocular lesions, and with voluminous hæmatomata compressing the whole of the occipital lobes, has been observed by M. Audry, and the case is detailed by him in the *Lyon Médical*, No. 33. The patient was a coachman, aged forty-five, whose illness began, three months before August, 1886, with headache, at first intermittent, but afterwards continuous. One month before admission, walking became difficult and titubation well marked. Considerable loss of sight occurred about the same time, also noises in the ears, obstinate constipation, and vomiting. The movements of the eyes and of the lids were normal; the pupils were equal; he could not read; diplopia was not present, nor did he see fogs. There was weakness of the upper limbs; the knee jerks were absent; there was much swaying on attempts at walking, and a tendency to fall backwards; the pulse was 56, and regular; no albuminuria or glycosuria. Later on, the pupils did not react to light, and were constantly dilated. At the necropsy the calvaria was found to be very thick, with osseous irregularities. Many clots and much fluid blood existed in the hæmatomata over both occipital regions, and the effusion was situated between the dura mater and the arachnoid; the brain had been pressed upon, but was itself in a healthy state. Fürstner and Huguenin have recorded cases of double "choked disc," without extravasation in the sheath of the optic nerve, in cases of hæmatomata compressing the brain. Knapp, Manz, and Fürstner have reported cases of double choked disc with sanguineous effusion into the sheaths of the optic nerves. Fürstner states that every time he had examined cases of meningeal hæmorrhage which

had caused unilateral or bilateral choked disc, he had noted unilateral or bilateral hæmorrhages into the anterior or middle fossæ of the skull, the clots meeting mostly towards the optic chiasma. Huguenin has observed an extravasation into an optic nerve sheath without any choked disc. Retinal apoplexy of limited areas has been noted in similar cases unaccompanied by real strangulation of the circulation or extravasation into the sheath. M. Robin has admitted the possibility of the occurrence of apoplectic foci between the optic nerve and its sheath in cases of chronic hæmorrhagic meningitis. Gubler observed choked discs in a case of subpontine meningeal hæmorrhage, and Strumpell has recorded papillary œdema in such cases.

THE SENSATION OF LIGHT.

NEW-BORN infants possess but feeble perception of light. Exposing a baby to the action of twilight five minutes after birth, Preyer observed the eyes to open and shut so that the palpebral fissure at times measured five millimetres, and a little later the eyes were noticed to be wide open and the forehead wrinkled. Before the end of the first day it was evident from the play of the features that a difference in the intensity of light was appreciated by the babe. On the second day the eyes rapidly closed on bringing a candle flame near; and on the ninth day the head was energetically turned away from the flame, and the eyes tightly closed. The sensitiveness to light was greater in the waking state than immediately after sleep, so that the same object which at one time caused dislike at another excited pleasure. On the eleventh day, the infant showed signs of pleasure at the sight of a burning candle, and also from a bright curtain holder. On the tenth day, it was found that the throwing of a strong light on the eyes of the sleeping infant caused contraction of the orbicularis palpebrarum. The pupils of newborn infants soon react to light, but are apt to vary much in size; they may contract to the diameter of two millimetres soon after birth. At the age of two months bright objects excite signs indicative of mirth.

VISUAL CORTICAL CENTRES.

La France Médicale, No. 93, records a fresh series of experiments by M. Vitzon on the situation and extent of the cortical visual centres. Munk considers the occipital lobe to be the only cerebral cortical region concerned in visual perception; whilst Ferrier, Yeo, Luciani, and others include the angular gyrus. Vitzon has experimented on dogs of moderate size, and, using Pacquelin's knife (*sic*), has removed the grey matter of Munk's visual zone on one side. Loss of sight in the opposite eye was noted after the operation. With the healthy eye bandaged the animal looked lost and hesitated in its movements, not being able to avoid obstacles. Simultaneous ablation of both occipital lobes caused permanent and complete blindness. In monkeys the facts appear to be exactly the same.

POISONING BY CARBOLIC ACID.

THE number of cases of poisoning by carbolic acid is notably on the increase, and this naturally provokes inquiry as to the cause, and also as to the possibility of control. This substance is very rarely taken with suicidal intent, although the ease with which it may be procured and the relatively low price might afford some temptation were it not for the peculiarly painful results produced by it. Mostly the poisoning is purely accidental. From its colour the acid is liable to be mistaken for beer, and this mistake is favoured by the carelessness ordinarily displayed in storing it in bottles of any and every kind. Carbolic acid is now so largely used that it is difficult to suggest any measure likely to prevent these frequent accidents. Careful labelling is, of course, one essential; but it would be still better to discard the employment of old wine or beer bottles in favour of vessels of any peculiar form which would direct attention to the injurious properties of their contents. The value of carbolic acid as an antiseptic is sufficiently well known to render restrictions upon its sale undesirable; but something must certainly be done speedily to check the frequency of these fatal accidents.

EXCESSIVE HEAT IN THE MEDITERRANEAN.

WE learn that whilst we have been experiencing wet and cold weather in this country, so that our summer has been quite an exceptional one in these respects, the heat in the region in which the Mediterranean squadron has been situated has been excessive—indeed, almost intolerable—being alleged to have been about 140° in the dynamo-rooms, and 160° to 170° in the hydraulic pumping-rooms. The troopship *Tamar* is also said to have lately experienced such intense heat that it was impossible for the stokers to keep up steam. Many men were on the sick list, and two men died of heat exhaustion. A large stock of ice was laid in at Suez. There should be ample supplies of ice, as well as the means of making ice, on board ships under these circumstances, together with different therapeutical agents that have been found useful in hyperpyrexia, capable of prompt application. Ice, cold affusion, exposure to free ventilation, and the use of antipyretics are essential to the saving of life.

INDICANURIA.

AFTER having nourished a dog in a uniform manner during a certain time, M. G. Pisenti found that the urine yielded a quantity of indican that varied daily between 11·7 and 19·9 milligrammes. The canal of Wirsung was then ligatured. After a transitory augmentation the indican diminished, and finally was reduced to 4·34 milligrammes. If then the animal was fed with pancreatic peptones, a brisk rise in the amount of indican in the urine was observed, and lasted for several days, followed by a return to the normal state. These results have a certain clinical importance, because they appear to throw light on the reason why fever may be accompanied by the disappearance of indican from the urine in dogs with pancreatic fistulæ. Stolnikow has demonstrated that fever may cause the cessation of the flow of pancreatic juice. Pisenti goes further by showing that this absence of juice has as its natural result the absence of pancreatic peptones and of indol, and consequently the remarkable disappearance of indican from the urine.

CHOLERA ABROAD.

FURTHER details as to the outbreak of cholera on board the *Impérieuse*, which lately became the flag ship on the China station, show that the occurrence involved a number of men. Three fatal attacks occurred—two in Hong Kong, and a third after the vessel had left for Yokohama. Complaints are made as to the extreme heat between decks; even at Yokohama the ordinary temperature is stated to be 100° F., and the condition of the ship's company is in consequence one of constant discomfort. To this extreme heat some of the more serious consequences of the outbreak are attributed. The sick have now all recovered.

Cholera is reported to be widely prevalent in Tashkend. The city is placed in strict quarantine, the wealthier inhabitants having fled to the mountains. Correspondence with the city is suspended, and the governor and public authorities are in a camp on the hills.

Twenty-four fatal attacks are reported from Macao, *viâ* Lisbon, on board the transport ship *India*, among the troops embarked for Mozambique.

THE RIVER WEAR AT DURHAM.

EFFORTS are being made by the Dean and Chapter of Durham to raise the level of the museum weir, in connexion with some other alterations they are about to carry out. It is maintained by Mr. Wm. Fox, surveyor, amongst others, that the effect of such heightening will be a distinct benefit to the city. Thus, it appears that no less than forty-two sewers enter the river Wear within a very short course of the flow of the stream through the city, and that at times the mouths of these sewers become exposed. This is obviously a dangerous condition; and in many places where a similar state of things has obtained the result has been the forcing of sewer air up into streets and houses. Unless some very distinct evil can be shown to result from the proposed heightening of the weir, such an alteration as will keep the mouths of sewers below the water level and will have other advantages at the same time should certainly receive the support of the inhabitants. Durham has not stood high as a progressive city in matters relating to health, and the local sanitary authority were not long ago credited with "resting on their oars." They should now seek skilled advice as to the probable effects of the proposal, and if it is calculated to remedy some of the present conditions of the sewer outfalls, whilst doing no harm, they could not do better than co-operate heartily with the Dean and Chapter.

MEDICAL LEGISLATION IN NEW ZEALAND.

AT the annual meeting of the New Zealand Medical Association the principal amendments of a proposed new Medical Act Amendment Bill for that country were discussed. They provide for the creation of a General Council of Medical Education and Registration of New Zealand, to consist of twelve persons. The members in the first instance to be appointed by the Governor-General in Council by proclamation in the *New Zealand Gazette;* all succeeding councils to be elected. The colony to be divided into four electoral districts, and each district to send three members. All persons registered in the Register of the United Kingdom are to be registrable in New Zealand. A pretty severe penal clause is proposed. Any person taking a title to which he is not entitled is to be liable to a penalty of £50. All persons representing themselves as registered, and not really so, to be liable to the same penalty. So with any person who is not a registered practitioner, and who practises in medicine, surgery, or midwifery, using the designation of, or representing himself to be, a physician, surgeon, doctor, apothecary, professor, specialist, or consultant in medicine, surgery, or midwifery. This clause does not prevent any person using the title of midwife or holding a licence in midwifery.

CARDIAC STRAIN.

EVERY year the vacation season claims its quota of victims. Many who have become somewhat enfeebled by long confinement and close attention to the calls of sedentary occupations, rush away for a short holiday, and endeavour by systematic over-exertion to make up for the inactivity of the past months. Every year brings its sad warnings of this folly in a record of fatalities, while the experience of most practitioners shows yet more clearly that this overstrain is followed by prolonged illness. The circulatory and respiratory systems work hand in hand, and rebel against any sudden disturbance of their ordinary routine. The danger is always greatest when, in the presence of any cardiac weakness, the exertion demands an arrest of respiration. In moments of intense nervous excitement the breathing is frequently unconsciously stopped, and the strain upon an enfeebled heart then becomes very severe. The sad death of Sir John Rose appears to have resulted from this cause: he had already fired twice at a stag, and when aiming a third time suddenly expired. Emotional excitement necessarily produces palpitation, and the fixation of the thorax then adds to the difficulty at the moment when the heart is at its weakest.

DISPENSING POISONS.

IT is now nearly a year since Dr. Sharkey recorded his belief that the employment of morphine was rapidly increasing among the better classes, and endeavoured to stem the torrent by calling attention to the evils resulting from the formation of the morphine habit. That this evil has been of yet more rapid growth in America is shown by an Act which was recently passed by the Legislative Assembly of the State of New York, forbidding any druggist to make up more than once any prescription containing more than one-fourth of a grain of opium or one-twentieth of a grain of morphine without a special order from the physician who originally prescribed the dose. In this country there is absolutely no control over the frequency with which a prescription may be made up. Rarely, a chemist may exercise his discretionary powers, and advise a fresh consultation, but that this is not often done is proved by the variety of addresses so often dotted all over an old prescription. This evidence of faith is touching, but a trifle irrational. A remedy which has once been useful may be highly dangerous in a later stage or under altered conditions, to say nothing of the risk of encouraging a morbid craving for narcotics.

SANITARY INSTITUTE OF GREAT BRITAIN.

THE much-desired amalgamation between the Sanitary Institute of Great Britain and the Parkes Museum has taken place, and articles of association of the Institute, which will in future carry on the objects of the two societies, have been framed. The memorandum of association has been signed by the Duke of Northumberland, the Duke of Westminster, Sir Douglas Galton, Dr. Poore, and other well-known sanitarians.

FOREIGN UNIVERSITY INTELLIGENCE.

Amiens.—M. Dhourdin has been appointed Professor of Anatomy.

Basle.—Dr. F. Siebenmann has qualified as *privat docent* in Otiatry, and Dr. Aaran as *privat docent* in Laryngology.

Berlin.—A large number of "vacation courses for practitioners" are advertised. They commence on Sept. 26th, and continue to the end of October. The fees vary from £1 to £3.

Bonn.—The names proposed for the chair of Special Pathology and Therapeutics in succession to Prof. Rühle, deceased, are Prof. Liebermeister of Tubingen, Prof. Riegel of Giessen, and Prof. Quincke of Kiel. A bust of Prof. Rühle is to be erected by the students in the medical clinic.

Giessen.—Dr. Gaffky of Berlin has been appointed Professor of Hygiene.

Jena.—The names proposed for the chair of Physiology in succession to Prof. Preyer are Drs. Biedermann of Prague, von Frey of Leipsic, and Gad of Berlin.

Lausanne.—The establishment of a complete university here, which has been talked of for many years, seems at last likely to become an accomplished fact, the funds having now been guaranteed.

Montpellier.—The following have been selected for recommendation to fill the chair of Anatomy:—First, M. Paulet; second, M. Bimar. For the chair of Pathology the selections are—first, M. Carrieu; second, M. Massé.

Nancy.—M. Tourdes, Professor of Forensic Medicine and Dean of the Faculty, having attained the limit of age, has

been allowed to retire, and has been nominated Honorary Dean.

Rouen.—M. Brunon has been appointed Professor of Internal Pathology.

Tomsk.—Dr. Malieff, *privat docent* in Kazan, has been appointed Professor of Anatomy. Dr. Deghel, also *privat docent* in Kazan, has been appointed Professor of Histology. Mr. E. Leman of Kazan has been appointed to the Professorship of Pharmacy.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following foreign eminent medical men are announced:—Dr. Poirier, Professor of Internal Pathology in the University of Ghent.—Dr. Nekrashevich of St. Petersburg.

VACCINATION has been accused of giving rise to almost every disease, and dental caries has been ascribed to a great variety of causes; and now "Dentist," writing to an evening contemporary, gravely states that "vaccination is a great cause of premature decay of the teeth." A reference to a paper published many years ago in an American dental journal and his own conviction are the only arguments adduced by the writer in support of this view, which would not be worthy of notice save that it offers an opportunity to remark that such unsupported statements thrown broadcast are very misleading to the public.

A RATHER serious outbreak of scarlet fever has occurred in Old Aberdeen. Last week it was discovered that thirty individuals were suffering from scarlet fever or severe sore throat. The throat affection seems to be the most prominent symptom of this outbreak, and not a few of the individuals affected present this symptom alone, but in these cases there is a history of previous attack of scarlet fever. What looked like the beginning of an epidemic of typhoid fever was also reported last week.

IN Milan the small-pox epidemic seems to be dying out, though the daily number of cases is still considerable. Appeals to the citizens to submit themselves to vaccination are still put forth at the instance of the leading physicians, the Town Council, and the Municipal Sanitary Commission, all of whom lament the fact that a hygienic regulation of such vital importance to the community is not yet made compulsory.

AN extensive outbreak of enteric fever is reported from Loughborough. So far, no special report on its cause has been received, but there are strong grounds for believing that the disease is due to the use of water supplies liable to contamination by reason of filth. How far the town is still dependent on local and surface wells will doubtless shortly be made kown.

A LOCAL PAPER announces the death of Mr. J. T. Hillier, M.R.C.S., L.S.A., at the South-Eastern Railway Station at Ramsgate. The deceased gentleman, who had been in practice in Ramsgate for many years, had, it appears, walked very hurriedly to the station, accompanied by his daughter, and whilst passing the barrier leading to the platform suddenly dropped down and expired.

THE yellow fever epidemic in Florida appears to be again on the increase. Advices from Jacksonville on Aug. 29th state that 15 new cases had occurred since the previous evening. Up to the date above mentioned, the total number of cases had been 146, with 21 deaths, 64 remaining under treatment.

AN ordinance has been adopted by the Board of Health of New York, requiring that at every hospital and dispensary in the city one or more rooms shall be provided for the reception and isolation of persons suffering from contagious disease.

THE death is announced of Mr. P. H. Gosse, F.R.S., the eminent naturalist, in his seventy-eighth year.

Pharmacology and Therapeutics.

QUILAYA BARK IN CATARRH.

DR. TRECHINSKI writes in the *Ejenedelnaya Klinicheskaya Gazeta* that he finds powdered quilaya bark of great service in both acute and chronic catarrhal rhinitis. It is put in a paper bag and the patient directed to shake it up and snuff up the dust from it every few minutes. At first the secretion is increased, and is of a brownish or yellowish colour from the admixture of pus cells. After a very short time, however, it diminishes in quantity, and becomes quite colourless. The nose then becomes dry, and the passage through it clear. If the use of the quilaya is prolonged the secretion is continued, but is quite colourless. The powder, when introduced into the nares and pharynx, appears to increase the secretion from the mucous membrane, but at the same time to remove all the pathogenic matter existing there.

OXYGEN IN THE CAPILLARY BRONCHITIS OF CHILDREN.

Dr. Sinainski gives in the *Russkaya Meditsina* some notes of a case of capillary bronchitis in a child a year and a half old, which seemed likely to prove fatal, where oxygen exerted a rapid and beneficial effect, resulting in complete recovery. Hot baths, ipecacuanha, and emetics of sulphate of zinc, sulphate of copper, and apomorphia had been tried, but the pulse was decreasing, and the child was growing more cyanotic and breathing with more and more difficulty. Three or four inspirations of oxygen produced a marked change, the breathing becoming easier and the cyanosis disappearing. The next day the child presented quite a different aspect. Tonics, expectorants, and stimulants were given, and in about four days' time the patient had quite recovered. Dr. Sinainski thinks that in apparently hopeless cases, where there are signs that the blood is not sufficiently oxygenated, the inhalation of oxygen presents us with a means of obviating the danger arising from that source, and in that way of perhaps saving the patient's life.

THALLIN IN GONORRHŒA AND GLEET.

Dr. Carlos Teixeira opened a somewhat important discussion at a recent meeting of the Rio de Janeiro Medico-Chirurgical Society on the treatment of gonorrhœa. For his own part, he had found surprisingly good results both in gonorrhœa and in gleet from the use of salts of thallin. He generally begins with injections of the strength of 1 per cent. of the sulphate. In acute cases this strength is increased to 2 per cent., in some cases even to 5 per cent., Ultzmann's catheter being employed with these strong solutions. He had never seen any symptoms of irritation follow the use of thallin; but, on the other hand, it usually cut the disease short in a few days. Some of the members present stated that they were in the habit of using permanganate in acute cases, and nitrate of silver in those that had become chronic. Dr. Teixeira had, of course, had experience of these methods of treatment, but had no hesitation in pronouncing thallin to be much more efficacious.

TANNIN IN PHTHISIS.

Dr. de Viti Demarco of Otranto has found that large doses of tannin will reduce the temperature of phthisis, and will sometimes produce a most beneficial effect on the course of the disease. He prescribes it in the form of a pill, to be taken every two hours. Each pill contains seven grains and a half of tannin, with a quarter of a drop of creasote. In one case, where there were cavities in the left apex, the whole of the lung being affected, the temperature rising as high as 40° C. at night, apyrexia was obtained in twelve days, and at the end of three months the general condition

was much improved, the cough and expectoration being greatly lessened, the weight having increased, and there being an entire absence of fever. Notwithstanding the prolonged use of the tannin, no unpleasant symptoms were produced by it.

BORIC ACID IN LEUCORRHŒA.

Some maintain that otorrhœa is best treated by filling the external ear with boric acid and plugging with a tampon of, preferably, salicylic wool. The drug is also useful in leucorrhœa. First irrigate the vagina with warm water, then introduce the speculum and dry with sponges and absorbent cotton wool; the vagina should next be packed with powdered boric acid at its upper part, and with absorbent salicylic wool at the lower part. Leave this dressing in place for three or four days, and then renew if necessary, which is not often the case, because, as M. Schwartz avers, the leucorrhœa has generally disappeared.

WHITE BRYONY.

M. Petresco of Bucharest has made many trials of white bryony as a styptic. He finds that it has decided vaso-constrictor action. Metrorrhagia has been arrested by the infusion made from 25 to 30 grammes of the root in 300 grammes of water. Breine is a glucoside, which has the same effects as the root. The aqueous or alcoholic extract may be employed in doses of from 1·5 to 3 grammes. Pneumonia is frequent in Roumania, and M. Petresco has treated 577 cases with infusion of digitalis in moderate doses with great success.

TYLOPHORA.

The leaves and roots of this plant are prescribed in the Indian Pharmacopœia. The leaves are emetic, diaphoretic, and expectorant. They are employed in gastric catarrh, dysentery, and as a substitute for ipecacuanha. The dose of the dried leaves is 1·5 gramme as an emetic; as a diaphoretic and expectorant, 20 to 30 centigrammes three or four times a day. The root in large doses is also emetic, and if repeated doses are given a cathartic effect is observed. It has been found very efficacious in dysentery.

PYRIDINE.

M. de Renzy has come to the following conclusions about pyridine. Internally administered, in doses of from 6 to 10 drops in water, it is well borne; it increases the strength of the cardiac contractions and diminishes the sensations of anxiety and oppression; it diminishes the number of cardiac pulsations and also the respirations; the blood pressure is raised. Pyridine has regulated an irregular pulse. It is very valuable in angina pectoris and in cases of cardiac failure.

HEALTH OF THE ARMY IN 1886.

No. II.

THE average strength of the troops in Cyprus during the year was 636; the admissions amounted to 1072, the deaths to 11·00, the invaliding home to 11·00, and the constantly sick to 50·81 per 1000 of strength. This, however, does not fairly represent the influence of the climate of Cyprus, for all the deaths, 7 in number, occurred among convalescents from Egypt, and none among the men of the corps forming the garrison. Among the latter, the admissions were in the ratio of 10·07 per 1000; there were no deaths, and the mean sick were 43·5 per 1000. There were 11 cases, and 5 deaths of enteric fever; 9 of the cases, including all the fatal ones, "occurred in men from Egypt shortly after their arrival, the disease evidently having been contracted in that country." The other cases were apparently contracted at Trosdos, but it was impossible to trace their origin. Venereal diseases were the most prevalent, the admissions amounting to 231 per 1000 of strength; and next to them were diseases of the digestive system, chiefly dyspepsia, diarrhœa, and hepatic affections.

The only station in the Dominion of Canada occupied by our troops is Halifax, where the average force in 1886 was 1283. The admissions were 585, the deaths 2·34, the invalids sent home 17·93, and the mean sick 30·22 per 1000 of the strength. Except the invaliding, these are the lowest ratios in any of our military commands during the year, and are all under the decennial average. Of the three deaths which occurred, one was from pneumonia, one from pneumonic phthisis, and the third by asphyxia from plugging of the air passages when drunk. There was nothing connected with the health of the troops to call for special comment.

The strength of the troops in Bermuda was 1227; the ratio of admissions was 636, of deaths 12·22, of invaliding to England 16·29, and of constantly sick 34·47 per 1000. These results show an increase in the admissions and the mean sick, but a decrease in the mortality and invaliding compared with the preceding year; with the exception of the death-rate, which is 4·65 above the average, they correspond very closely with those of the decennial period. Diseases of the digestive system were the cause of the largest number of admissions, but without any fatal cases, and fevers that of the greatest number of deaths. There were 28 cases of enteric fever, with 4 deaths, being in the ratio of 22·8 and 3·26 per 1000 of strength; 24 of the cases and 3 of the deaths were at Prospect, and the remainder at St. George's. The principal medical officer states: "While there is no appreciable cause for this disease within military limits, the highly insanitary condition of the civil surroundings and the continued presence of the disease among the civil residents lead to the belief that it is contracted by the troops outside barracks." He adds: "This is apparently borne out by the infrequency of the disease among the women and children, who rarely leave the precincts of their quarters." This, however, is not supported by the figures given in the report, the cases among the women having been in the proportion of 33 per 1000, as against 23 among the men; but the numbers are too small to justify any deduction on the subject. The principal medical officer points out that "some radical measures are urgently called for in the direction of a systematic and persistent supervision of the residences of the civil population. At present it would seem that cesspits are seldom, if ever, emptied, tanks hardly ever cleaned out, and the due protection of tanks from overflow or percolation from cesspits indifferently looked to." These remarks are not applicable to the quarters occupied by the troops, which are reported to be in a satisfactory condition.

The average strength of white troops in the West Indies was 1020; the admissions into hospital were 1169, the deaths 14·70, the mean sick 55·09, and the invalids sent home 13·73 per 1000 of strength. The troops were quartered chiefly at Barbadoes, Jamaica, and Trinidad. No information is given respecting the relative health at each of these stations. The admissions, deaths, and mean sick were much higher, but the invaliding lower, than in 1885. There was only one case of enteric fever reported. It occurred at Barbadoes, and terminated fatally; its cause could not be traced. Two fatal cases of yellow fever occurred in Jamaica; the troops were "moved to the camp at Papine and the disease did not spread."

The strength of the black troops was 1120; the admissions were 1293, the deaths 19·64, the discharges by invaliding 16·07, and the mean sick 57·25 per 1000. The admissions and deaths were much higher, but the invaliding and mean sick lower, than in 1885, and also than the decennial average. The increase in the sickness was chiefly due to fevers in Jamaica and to the prevalence of diarrhœa and dyspepsia; no case of enteric fever was admitted. The high death-rate was in a great measure the result of remittent fever at Honduras, the deaths, 8 in number, being in the ratio of 7·14 per 1000; the deaths by consumption were 3·56 per 1000, or 1 per 1000 under the decennial average.

In Western Africa the strength of the black troops was 503, of which 343 were at Sierra Leone and 163 at Cape Coast Castle. The admissions were 2988, the deaths 19·88, and the mean sick 98·49 per 1000. The admissions were double, but the deaths only 1 per 1000 above the average. More than half the admissions and deaths were by malarial fevers. "The increase is attributable partly, it is said, to the unhealthy season, and partly to the effect of climate on the newly arrived troops," the head quarters of the 2nd West India Regiment having been replaced by those of the 1st in April. There was no death from phthisis during the year. The senior medical officer at Cape Coast Castle states that the sanitary condition is far from satisfactory, but that it is being slowly improved. No complaint is made of the condition of the barracks at Sierra Leone.

The average strength of the troops at the Cape of Good Hope, including a detachment of 213 men at St. Helena,

was 3971. The admissions were in the ratio of 809, the deaths of 4·28, the invaliding of 18·38, and the constantly sick of 49·09 per 1000, all considerably lower than in the preceding year. There were 14 cases of enteric fever, with 6 deaths, being in the ratio of 3·5 and 1·51 respectively. Seven of the cases, with 5 deaths, occurred at Pietermaritzburg, 2 with 1 death at Durban, 2 at Etshowe, and the rest at Cape Town; no definite cause could be traced, but at Cape Town they "were probably contracted in the lower parts of the town, the sanitary condition of which is very bad." Venereal diseases were the most frequent cause of the admissions, having amounted to 276 per 1000, or upwards of one-third of the whole. There was no other class of diseases of which the prevalence seems to call for remark. One fatal case of enteric fever occurred among the officers, and two cases, both of which recovered, among the women.

In the Island of Mauritius the strength was only 414, among whom the admissions were 1442, the deaths 21·73, the invaliding to England 38·64, and the mean sick 75·79 per 1000; the admissions and mean sick were lower, but the deaths were 5 per 1000 higher than in 1885, and the invaliding was nearly identical in the two years. The great reduction in the admissions took place in malarial fevers, which furnished only 396 cases, as against 1478 in the preceding year. This was due, in the opinion of the senior medical officer, to the transfer of the infantry detachment from the Line Barracks, Port Louis, to Curepipe, "a place 2000 feet above sea level, with a temperature at least 10 or 15 degrees lower than that of Port Louis at the hottest period of the day, and free from malaria and other insanitary conditions prevalent at the former place." In the few cases of malarial fever which occurred at Curepipe, it had been previously contracted in Port Louis. There was an increase in the cases of dysentery, which may have been the result of "want of care in the colder climate of Curepipe, affecting men who had suffered at Port Louis." Two cases of enteric fever were admitted, both at Curepipe, and terminated fatally. No information is given as to their origin.

The white troops serving in Ceylon averaged 949, and had 1137 admissions, 10·53 deaths, 14·75 invalids sent home, and 61·68 constantly sick per 1000. Except the invalids, which show a considerable reduction, these results differ little from the preceding year; the mortality and invaliding were considerably under the decennial average. Venereal diseases were the most prevalent class, having been the cause of 347 admissions per 1000 of strength, and enteric fever was the most fatal disease. There were 10 admissions and 4 deaths by it, being in the proportion of 10·5 and 4·22 per 1000; 8 of the cases with 3 deaths occurred at Colombo, the others at Galle. The disease is endemic among the civil population of both places. Steps are being taken to improve the sanitary condition of Colombo by filling up the old moat at the fort, which was little better than an open sewer. The admissions by all forms of venereal disease were very high, amounting to 399 per 1000 of strength, and 94 per 1000 above the average of the five preceding years. The Asiatic troops were only 97 in number, and were very healthy; no death occurred among them during the year.

The strength of the troops in China and the Straits Settlements was 2269, of whom 1132 were at Hong Kong. The admissions at Hong Kong were 1198, the deaths 7·95, and the constantly sick 51·77 per 1000; in the Straits Settlements they were 1151, 14·95, and 47·06. These ratios, compared with those for 1885, show an increase in the admissions and mean sick, but a decrease in the deaths at Hong Kong; while there has been a decrease in the admissions, with a great increase in the mortality in the Straits Settlements, the mean sick there being nearly the same in the two years. The invaliding from the whole command was 9·69 per 1000, or only one-fourth of the decennial average. Malarial fevers were the most prevalent cause of admission, having amounted to 398 per 1000 of strength, or one-third of all the cases. Continued fevers were also very prevalent, the ratio being 119 per 1000. The greatest number of this type occurred at Tanglin in the Straits Settlements, where malarial fevers were also a cause of great sickness, the admissions by them having been as high as 694 per 1000 of strength. This has been attributed to the influence of a large swamp in the vicinity of the barracks. "At Tanglin there are on the south, east, and west of the barracks extensive fresh-water swamps, covering an area of about five square miles, with patches of jungle interspersed." "At Hong Kong the increased prevalence of malarial fevers was attributable to two causes: first, disturbance of the soil; and, secondly, an unusually dry season. The extensive excavations, cuttings in the hill side, and upturning of earth that are at present going on in the making of new roads, digging foundations for houses, works for the construction of new forts, an aqueduct, &c., have caused a disturbance of the soil over the greater part of the limited area on which the town of Victoria is built." As on many previous occasions, this turning up of the soil seems to have given rise to a great amount of fever. Both at Hong Kong and Tanglin, Eucalyptus trees have been planted in the neighbourhood of the barracks. It will be interesting to see whether this has any effect in diminishing the prevalence of these fevers, as it certainly appears to have had in some of the malarious districts in which it has been tried in Europe. There were 4 cases of enteric fever, of which 2 died, all of them in the Straits Settlements; nothing is stated as to their origin. The admissions from all forms of venereal diseases were 166 per 1000, the relative prevalence in the two divisions of the command being 198 at Hong Kong and 146 in the Straits Settlements.

The Asiatic troops consist of gun lascars stationed at Hong Kong, with a small detachment at Singapore. The average strength was 189; the cases were in the ratio of 1333, the deaths of 5·29, and the mean sick of 34·18 per 1000; the most prevalent disease was malarial fever. The only death which occurred was from remittent fever.

The force employed in Egypt during the year averaged 11,062 men, of whom 7348 were in Lower Egypt, 3503 composed the Frontier force, and 211 were at Suakim. The following shows the sickness and mortality of these divisions, the period embraced in the Suakim returns being only until May 7th:—

—	Annual ratio per 1000 of mean strength.			
	Admissions.	Deaths.	Invalided.	Constantly sick.
Lower Egypt ..	1336	19·73	83·03	81·84
Frontier force ..	1161	70·51		58·60
Suakim	886	23·70	128·00	65·69
Total force ..	1272	36·38	83·89	74·17

The admissions, invaliding, and mean sick were lower, but the death-rate 7·90 per 1000 higher, than in the preceding year, the increase of the latter being entirely in the Frontier Force. The great cause of the high death-rate was enteric fever, which amounted to 21·79 per 1000 of strength, or very nearly three-fifths of the total mortality. There were 52 cases and 4 deaths of small-pox, being in the ratio of 5·4 and 0·42 per 1000. Of the cases, 14 with 1 death occurred in the Frontier Force, and the others in Lower Egypt. Of enteric fever, 733 cases and 241 deaths occurred; of these, 250 with 69 deaths were in Lower Egypt, 467 with 170 deaths in the Frontier Field Force, and 16 with 2 deaths at Suakim. Next to enteric fever the highest death-rate—3·71 per 1000—was from general injuries, and dysentery was the cause of 3·16 deaths per 1000. No case of cholera was returned during the year. Diseases of the eyes furnished a ratio of 65·6 admissions; their prevalence was very nearly alike in Lower Egypt and the Frontier Force.

The cases of sickness among the officers amounted to 759, and the deaths to 21·68 per 1000. Of the 9 deaths, 4 were from enteric fever, 1 from dysentery, 1 from pneumonia, 1 from diaphragmatic hernia, and 2 from heat apoplexy.

POISONING BY MUSSELS.—A shipwright in Liverpool was taken a few days ago to the Northern Hospital in an unconscious condition, and soon afterwards a fellow workman was conveyed to that institution in a similar state. The symptoms were nearly identical in both cases, though somewhat less severe in the second. It transpired that the men had been tempted by the presence of some mussels clinging to the bottom of one of the flats in the dock to pick them off and eat them. The life of one of the men is said to be in danger.

SANITATION AT MARGATE.

EIGHT years ago we published a description of Margate, which certainly was but little to the credit of the inhabitants and municipality of that town. It was then our unpleasant duty to explain that the death-rate was higher than it was natural to expect, considering the marvellous climate which the town enjoys. These unfavourable statistics were probably due to bad sanitation, and notably to the prevalence of cesspools. Some of these cesspools were in dangerous proximity with the water supply derived from the Tivoli wells, and the inhabitants, to avoid the cost of emptying, sought to render them porous. The few sewers that existed in the older portions of the town were so built that they formed syphons and retained sewage. The old drain in Love-lane was three feet below its outfall! Further, when the tide rose, especially during the spring tides, it flooded these sewers, and sometimes forced the sewage up into the basements of badly situated houses. These statements caused considerable commotion at the time. Deputations came up to London and were received at the Local Government Board. Three years previously, in 1877, a report and scheme for draining the borough of Margate had been issued by the borough surveyor, and the Local Government Board gave its sanction to this project. Consequently we were under the impression, so far back as eight years ago, that the cesspools would soon be abolished, and that Margate, as a health resort, was no longer satisfied to remain so far behind the age in practical hygiene. This, however, was an illusion. Years were wasted in futile discussions. The admonitions of sanitary reformers, and the willingness of the Local Government Board to assent to any reasonable scheme and grant the necessary powers for raising the money, were all of no avail in breaking down the dead weight of blind opposition based on ignorance, prejudice, and the personal interests of those who could not take a broad view, and failed to realise that in the long run their personal advantage would be best secured by promoting general prosperity.

In due course, what had so often been prophesied at last occurred. An epidemic of typhoid fever broke out, and the scare which ensued has entailed more loss on the inhabitants of Margate than the cost which would have been incurred by the adoption of an energetic sanitary policy. The prevalence of typhoid fever awakened the attention of the Local Government Board, and Dr. Page was sent to report on the epidemic. The result was the publication in 1887, under the authority of the Local Government Board, of a report which confirmed, in every important particular, the complaints we had made in 1880. There had been sixty cases of typhoid fever, with the very high proportion of nineteen deaths, and the most probable cause was the contamination of the water supply, due, in a measure, to the cesspool system. Let us hasten to add that this very severe lesson has borne good fruit. Some important sanitary improvements have been realised.

First among these must be mentioned the new water supply. A fresh boring has been made at a considerable distance from town, in the Dane valley. Adits have been dug in the chalk, a powerful engine pumps up the water, and the yield (about 600,000 gallons per day) is enough for the entire town. There are no habitations near, and the water so far has proved to be as pure as it is possible to expect when derived from the chalk. Hardness is its only fault. Last year this new supply of water was only partially used, and yet there were but three deaths from typhoid fever, while nineteen persons had died the previous year from this cause. There is a theory current that the water from the old supply, known as the Tivoli wells, is only dangerous when it is almost exhausted. This would of course happen in the summer, precisely when the town is most crowded by visitors. Samples of the water have been taken at various periods, analysed, and found pure. On other occasions—and some of these are quoted in Dr. Page's report—the water was shown to be impure and dangerous. This unfavourable result, it is supposed, only ensues when it is necessary to pump very low down. It is, therefore, urged that, should the new water-supply run short, there would be no danger if a portion—just the upper or surface portion—of the old or Tivoli supply were employed. For our part, we do not see that there is evidence sufficiently conclusive to prove this theory, however plausible it may seem. As the new water-supply is both ample and pure, we would urge the necessity of removing all doubt, all hesitation, from the minds of the public by definitely abandoning the old and guilty Tivoli wells. Their water is proved to be occasionally bad; it cannot be said how often it is bad. Why incur any risk by having anything to do with it?

The second great improvement accomplished has been the digging up and relaying the old and defective sewers in the low-lying part of the town. The old drain in Love-lane was not only found to be three feet below its outfall, but it was built in different sections. It has now been cleaned, filled up with concrete, and a new sewer laid. Altogether about 2000 feet of new sewers were built some two years ago. The outfall, which is near the jetty, was also relaid at a deeper level and carried farther out to sea. Then a disconnecting chamber, with penstock and cast-iron back flap, was built just in a line with the commencement of the jetty. Here sewage can accumulate, and, by raising the penstock, be used to flush out the pipe that runs into the sea. On the other hand, when the tide rises it presses against the back flap, which thus forms a hydraulic valve, and closes the sewer against the ingress of the sea. The abominations that used to occur through the flooding of the basements in the districts below high-water level are therefore rendered impossible, and this grievance is now buried with the past. All these alterations in the drains were accomplished two years ago, when Mr. Green, the ex-mayor, was chairman of the Drainage Committee. To this gentleman's energetic initiative the inhabitants of Margate are much indebted for the improved reputation of their town. Mr. Alderman Hermittage, against much opposition, carried out the new waterworks, and to him in a great measure may be attributed the saving of human life, which the most recent statistics seem to indicate. In all these undertakings the borough surveyor, Mr. Alfred Latham, has brought to bear his experience and technical skill, carrying out the new works with energy and precision. We are glad to note, among other innovations, that the borough surveyor is now relieved from the duties of sanitary inspector, and a special sanitary inspector, devoting his whole time to sanitary work, has been appointed. Acting under the instructions of the medical officer of health, Dr. Scatliffe, who has also been recently appointed, a house-to-house sanitary inspection was commenced before the present season, and will be resumed when the season is over. In some of the worst parts of the town 155 houses were inspected, which led to sanitary alterations in forty-five houses. Wells were filled up and the water-supply improved in six instances. Again, we must record that the scavenging is admirably performed in Margate. The household dust and refuse are removed every twenty-four hours; the dustbin nuisance is almost unknown.

In respect to the enjoyments provided for the visitors to Margate there is likewise remarkable progress. A sea wall and splendid promenade has been built between the old port and the Marine Parade, so that carriages and horses may now drive right round the bay. On the other side of the jetty, some land redeemed from the sea is now converted into a resort for pleasure seekers. Excellent tepid swimming-baths for both men and women are provided, so that bathing and swimming in sea water may still be continued when the weather outside is too boisterous or too cold. The ventilation of the Assembly Rooms and theatre have also been improved.

Unfortunately, there is also a dark side to the favourable picture we have drawn. Margate still labours under the stigma of the cesspool system. These cesspools, cut in the chalk, vary from twenty to forty feet in depth, are ten to twelve feet broad at the base, and three at the top. There is no attempt to make them watertight. On the contrary, the men by whom they are emptied make a boast of scraping the sides, so as to remove the grease which blocks up the pores of the pit and prevents the water oozing away. These cesspools, in spite of their porous nature, cost a large amount of money to empty. Estimating the number at 3000, and the cost at £3 or £4 each, we have an annual outlay of from £9000 to £13,000, equal to a rate of from 2*s.* 6*d.* to 3*s.* 6*d.* in the pound. The scheme now actually proposed for abolishing the cesspools and substituting sewers would, in order to pay the annual cost, the interest on loan, and gradual amortisation, only necessitate the imposition of a

rate of 8½*d.* in the pound. The householders of Margate would therefore realise a great saving if the town were properly drained. In fact, after many years of resistance, it is now admitted by the authorities that sewers must be built.

There is, however, one portion of the town—precisely the portion where sewers already exist, though with some exceptions they only carry surface or rain water—which cannot be drained, as at present, by gravitation. The actual outfall into the sea by the jetty between the bathing places could not be tolerated if the sewer received the sewage proper of the town. It is therefore desirable for the lower portion of Margate to drain away from the sea and to raise the sewage by some method of pumping. Margate is divided by the valley of the Dane. It is proposed to run on both sides of this valley intercepting main sewers, into which all the upper portions could drain by gravitation. These two mains would join in the rear of the town and be continued to a convenient spot several miles away and there discharge into the sea. The sewage gathered in the part lying below these intercepting mains must be raised up to their level by artificial means. It is in the use of these artificial means that the principal difficulty arises. Two methods have been proposed: hydraulic pumps similar to those which are now in use at Friern Barnet, or else the Shone ejectors. A fierce paper warfare has been raging between the advocates of these rival systems, and the problems involved are certainly of the greatest interest. As the matter now stands, we must confess that the Shone system, which, as we had recent occasion to notice, gives excellent results at Henley-on-Thames, has not received in Margate fair consideration. Should the authorities there now decide in favour of the hydraulic process, their example, it is said, will lose much of its weight and interest from the fact that they have only thoroughly investigated one side of the question. They are called upon to pronounce a verdict on the rival merits of compressed water as a motive power to work automatically a lifting pump, and a system for automatic lifting of sewage by a contrivance in which compressed air is the motive power. This is surely a very grave and important question. We are all, and in all parts of the country, interested in its solution. Yet while the engineer advocating the hydraulic automatic pump has been called upon to prepare a scheme and provided with every possible information and assistance, the engineer who urges, on the contrary, the superiority of the pneumatic ejector has not, we are informed, been consulted. This is all the more unfortunate, as in the pneumatic system we have not only a means, economical and efficacious, for lifting sewage, but also many important innovations in drainage generally that are well worth careful study. We do not ourselves wish to prejudge the question, but we think it only right to claim for both sides an equal hearing.

In any case, no time must be lost. Margate cannot retain its popularity as a health resort in the face of its many rivals if it continues to drain into cesspools. It is a notable fact that the cases of typhoid fever—with one exception, when the importation was clearly proved—all occurred in houses with cesspools. This in itself should suffice. The water supply, to the credit of the town be it said, is now altered. It remains to abolish the cesspools. This must be done without further delay.

ABERRANT FORMS OF LUPUS.

THE name of M. H. Leloir has long been associated with the investigation of the characters presented by the rarer forms of lupus, and he has recently produced an interesting monograph dealing with three of these varieties in their nosological aspect. To these he gives the names *variété colloïde*, *variété mucoïde ou myxomateuse*, and *variété sclereuse*. Of the first two varieties he gives the following description:—

"In the first variety the lupus tubercles have a somewhat glassy appearance, and are semi-transparent. They sometimes enclose small cysts arising from the colloid degeneration of parts of the constituents of the lupoid mass. On dissection these lupoid nodules are found to consist of masses which may be stained a yellow-orange colour by picrocarmine, having a glassy appearance, and presenting the characters of colloid degeneration. These masses are nothing but the central parts of the lupoid follicles. They are rendered conspicuous by their yellow and glassy appearance in the mass of embryonic cells which surrounds them. They commonly enclose one or two giant cells difficult to distinguish, in which or in their neighbourhood may sometimes be discovered occasional tubercular bacilli, but usually after a long search and numerous sections. These lupoid nodules are almost entirely destitute of bloodvessels.

"In the second variety the lupus presents itself under the form of soft transparent tubercles, having a somewhat gelatinous appearance. These tubercles are usually traversed by minute bloodvessels, easily seen and easily isolated, and bear upon the surface a fine vascular network. Sometimes there are to be noticed on the surface of these tubercles small transparent points, which are nothing but minute cysts containing a mucous substance. These tubercles ulcerate only with great difficulty, and very rarely. In this variety the lupus infiltration is generally diffused. The embryonic cells which compose it are disseminated irregularly and comparatively sparsely through the skin. The connective tissue of the skin has lost its fasciculated appearance, and usually looks somewhat softened, coagulated, and more or less like gelatine. Elastic fibres have almost wholly disappeared. It is with difficulty only that here and there some remnants of the dermal connective tissue can be found. At these points one may often observe a mucous degeneration of the broad cells of the connective tissue. In sections stained with picrocarmine, the embryonic cells which compose the diffused lupoid infiltrate are rendered visible by their red tint upon the yellow-coloured skin tissue. Some of these embryonic cells have themselves undergone mucous degeneration. They have a tendency to group themselves about the dilated bloodvessels which abound in this lupoid tissue. It is only exceptionally that they form large masses or nodules constituting the characteristic follicle of lupus. Still more exceptional is it to find giant cells in these scanty lupoid follicles. ..... The search for bacilli is exceedingly difficult. Commonly none are found. I have sometimes made as many as sixteen sections, and then only found one or two. The bacilli are always discovered in giant cells or their near neighbourhood. Unlike the former variety, these tubercles are traversed by numerous bloodvessels, in many cases dilated."

The writer then gives some account of his inoculation experiments, and draws the following conclusion: "The three preceding aberrant varieties, therefore, of *lupus vulgaris*—the colloid, the mucoid or myxomatous, and the sclerosed—are, like the classical form (i.e., *lupus vulgaris*), merely attenuated forms of tubercle of the integument. I say *attenuated*, because these forms contain only a small number of bacilli; because the animal experimented upon contracts the infection much more slowly than if true tubercle were employed; and because it sometimes happens, at least in inoculation with very large quantities of lupus, that the inoculation may be negative."

BRITISH DENTAL ASSOCIATION.

THE opening meeting of the Association was held on Thursday, Aug. 23rd, in the lecture theatre of the School of Physic, Trinity College, Dublin, presided over by Mr. J. R. Brownlie, the outgoing President. It was intimated that an invitation had been received from the Southern Counties Association to hold the meeting for 1889 in Brighton, which after some discussion was accepted.

Mr. Cunningham read a report by a special committee appointed by the Representative Board, in which they recommended that more attention should be paid to the teeth of recruits for the army and navy, and that some provision should be made for the purpose. The committee memorialised the navy authorities last April, and asked that dental practitioners should be allowed to examine the teeth of recruits for the navy, but the proposal was not accepted. A report was also read from a sub-committee recommending that attention to the teeth of school children should be made compulsory.

A motion was next adopted thanking the Provost and senior Fellows of Trinity College, the President and Council of the Royal College of Surgeons, and the Chancellor and Standing Committee of the Royal University, for their help in making the meeting in Dublin so great a success.

The outgoing President (Mr. J. R. Brownlie) then delivered a valedictory address, in the course of which he said that the passing year had witnessed a new departure in the development of the Association. It had for the first time met upon Irish soil, and on the invitation of an Irish branch. Certain it was that the welcome which their Irish brethren had prepared for them, and the arrangements entered into for the furtherance of the work of the Association, could not but inspire the most sanguine anticipation from the formation of an Irish branch.

A vote of thanks having been accorded to Mr. Brownlie, the chair was taken by the new President (Mr. D. Corbett), who delivered an inaugural address. He said that they saw in the Dental Museum the evidence of refined scientific investigation, skilled manual and digital dexterity, and mechanical contrivances of no ordinary merit. He referred to the means of instruction at his disposal when he commenced his professional education, and the laborious toil associated in those days with the construction of a set of artificial teeth, the time consumed, and the very defective result.

Mr. Theodore Stack read a paper on Dental Ethics. The public, he thought, having passed the Act of 1878, should, in their own interest, contribute to support dental hospitals, at least in all large centres. They should treat the dentist as an educated gentleman, and, recognising that he had expended a large amount of capital on his education, regard his opinion and his work as entitled to fair and cheerful remuneration.

Mr. Corley read a paper on Anæsthetics in Dental Surgery, and dwelt on the choice of anæsthetics, the methods and appliances for their use, and the need of proper precautions being taken.

Mr. A. Baker read a communication on the Annual Museum and its Contents, in which he directed attention to such objects as were of particular interest.

On Friday, August 24th, Mr. W. Booth Pearsall read a paper on the Use of the Imagination in the Design and Construction of Artificial Teeth; and other papers were read by Messrs. Murray, Amos Kirby, A. J. Watts, and George Cunningham.

At the termination of the meeting, Mr. Daniel Corbett intended to have entertained the members of the Association at a garden party in the Fellows' Garden, Trinity College, but the heavy showers of rain prevented this taking place. The same evening the annual dinner of the Association was held in the Royal University at Earlsfort-terrace, while later on a conversazione took place at the College of Surgeons. The Dental Museum was divided into four sections—viz., Manufactures, Literature, Surgery, and the Work-room. The Surgical Department contained about 800 specimens of phenomenal development of teeth, and numerous plaster models of cleft palate and dental irregularities. There were some dental instruments exhibited which were used in the sixteenth century, and a rare example of a gorilla's jaw with a canine tooth implanted in the ramus, besides various specimens of comparative pathology. Mr. Howard Mummery exhibited a series of interesting photographs illustrative of the various forms of diseases of the teeth in human beings and in the lower animals.

Saturday was devoted to excursions, and the members visited various places of interest, including Guinness's Brewery, Howth, and Bailey Lighthouse.

DEATH UNDER CHLOROFORM.

WE are indebted to Mr. E. Caudwell, house physician to the Westminster Hospital, for the following particulars of the recent death of a patient whilst under chloroform at that institution.

H. L——, aged forty-six, came to the hospital on July 22nd, 1888, in order to undergo an operation for malignant growth at the back of the pharynx. The patient was fairly well nourished, and seemed a very healthy man, and had always been so until four months ago, when he began to complain of dysphagia, pains in the head, and fetid discharge from the mouth. He was informed that his disease was incurable, and that an operation could only relieve him for a short time. As he seemed very eager to undergo any operation that might afford him relief, it was resolved to remove as much of the growth as possible by the galvano-cautery. While in hospital his more pressing symptoms were great dyspnœa at night, fetid discharge from the mouth, dysphagia, and pains in the head. On August 21st, 1888, he was taken into the room adjoining the theatre, where chloroform was administered by the house physician, Mr. E. Caudwell, Junker's inhaler being used. The patient took the anæsthetic well, and in about two and a half minutes was fully under its influence. The house physician then directed that he should be carried into the adjoining operating theatre. Before, however, the patient could be moved he suddenly stopped breathing and became livid in the face; the heart still continued to beat, the rate being about 60 to the minute. Efforts were made at once to restore respiration, but to no purpose, for the heart ceased to beat about two minutes after respiration had stopped. The amount of chloroform given was a drachm and a half.

The post-mortem examination was made twenty-four hours after death. The following are the notes made by Dr. Hebb:—Body fairly well nourished; rigor mortis persistent. Skin of face purplish. Brain: weight 51 oz.; dura mater adherent; pia mater and nervous tissue quite normal. Examination of mouth, palate, and pharynx shows a new growth about the size of a large turkey's egg. It is lobulated, white in colour, softish, but coherent in consistency. It grows from the right and upper part of the pharynx, involving the palate and right side as far as the uvula, and hangs down so as almost to touch the epiglottis. No enlarged glands. Right pleural surface adherent; left normal. Lungs emphysematous; certain amount of œdema; no marked congestion. Weight of heart 11 oz.; small amount of decolourised clot in right ventricle; blood slightly frothy in same. No enlargement of heart; endocardium normal and valves competent; heart-muscle firm and red. Pericardium adherent over an area equal to a sixpenny-piece, about the middle of the left ventricle; adhesion old. On opening the thorax there was a faint odour of chloroform. The rest of the organs were normal.

The patient died from sudden arrest of the respiratory function; and it was found at the necropsy that there was quite enough to show that this resulted from a mechanical cause—namely, the new growth suddenly occluding the aperture of the larynx.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

Epidemic Diphtheria at Buxted and Maresfield, by Dr. AIRY.[1]—The two parishes dealt with in this report lie on the southern slopes of Ashdown forest in the northern part of Sussex, and are within the Uckfield rural sanitary district. They are believed to have been free from diphtheria for some years until September, 1886, when the disease appeared in Buxted, but no definite origin could be detected. The cases were not reported to the sanitary authority, and no proper disinfection was practised. Following on these attacks, and doubtless connected with them, came others at Hobbs' Farm, Hurstwood, Fiveash Down, Maresfield, and other hamlets and places; the sequence of the attacks being fully described by Dr. Airy. There were also during the early part of 1887 a number of cases of sore-throat recognised more or less certainly as diphtheria in the extreme western part of the area included in the inquiry, at Old Forge and Fairwarp, the maintained epidemic continuing until March 22nd of this year, when the last fatal attack occurred. At this stage the history ceases, probably to commence again with the present autumn. The story is an oft-repeated one, in which a large proportion of attacks could not be perfectly traced to any definite source; whereas, in other cases, personal infection, and this especially in connexion with school attendance, was the principal means of conveying the infection. In some cases, too, conveyance of the poison seems to have been due to clothing belonging to infected families;

[1] Eyre and Spottiswoode, East Harding-street, E.C.; Adam and Charles Black, Edinburgh; and Hodges, Figgis, and Co., Dublin.

and this although the garments were not worn by children who had been themselves attacked. Numerous sanitary defects were discovered during the course of the inquiry, and investigation was made as to the possible influence of milk supplies and other conditions in the distribution of the infection; but no sufficient explanation of the occurrence was forthcoming. The need of some means of isolating first attacks of diseases, such as diphtheria, is regarded by Dr. Airy as constituting the most serious defect in the sanitary administration of the district; and it is very certain that in such localities as were included in the inquiry the homes of the labouring classes can never afford a means for safely separating an infectious sick child or other person from the remainder of his family or from neighbours. Even a small cottage kept in readiness to receive such cases would be an invaluable addition to the sanitary defences of a rural village or of a group of hamlets.

High Rate of Mortality at Dolgelly, by Dr. Parsons.—This small town of nearly 2500 inhabitants has acquired some notoriety from a death-rate in excess of that which it ought to have; and hence investigation was made into its sanitary state. The town has been built with an entire absence of preconceived plan. It consists of an irregular network of narrow lanes, and the houses are often much cramped for space. Some are placed back-to-back; others are damp for want of eaves-spouting; and the interiors are, in many cases, miserably contrived. Bye-laws to secure some amendment of this in the future have been adopted, but they are entirely disregarded; and whether the maintenance in an efficient and wholesome condition of sewers and drains or other matters are considered, the outcome of the inquiry shows that a much closer attention to the sanitary condition of the place is needed at the hands of the Local Board. There is, however, a good water supply, a fair system of general sewerage, and no special excess of excremental nuisances. It is especially as regards its general mortality, and its death-rate from phthisis and other diseases of the respiratory organs, that Dolgelly compares so unfavourably with the corresponding rates for England and Wales; whereas the reverse is the case as regards the group known as that including the principal zymotic diseases. The housing of the people in cold, damp, ill-ventilated dwellings seems largely responsible for the excess of deaths, and to this the sanitary authority should address their efforts.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

St. Giles District.—In this metropolitan district the birth-rate during 1887 was 26·7 per 1000 inhabitants, and the corrected death-rate was 23·0 per 1000, which is almost identical with that both for the preceding year and with the decennial average. The percentage of deaths under one year to births was high—namely 17·8, as opposed to 15·9 in the metropolis as a whole. Details are given by Mr. S. R. Lovett as to the zymotic diseases, which, as a group, caused a death-rate of 3·0 per 1000, against 2·6 for the preceding year; and also as to the action which has been taken in the district under the Artisans and Labourers' Dwellings Acts and under Cross's Act. The sanitary work is well maintained, and it is satisfactory to note that, although the demands made by the department often involve considerable expense, they are promptly obeyed.

South Shields Urban District.—In this borough the death-rate for 1887 was 21·3 per 1000, and the zymotic rate 2·69, some excess in the latter being mainly due to a prevalence of scarlatina and measles; and, in connexion with this circumstance, Dr. Campbell Munro says that, notwithstanding all the efforts made by his department, the action taken remains, to an important extent, ineffective and unremunerative for lack of a system of compulsory notification. No less than 244 patients were admitted during the year into the borough infectious hospital, the cost of maintenance per head reaching £3 10*s.* 5*d.*, with an average stay of forty-one days. As to general sanitary work, reference is made to the value of regular and frequent inspection, a process that is impracticable in South Shields with an inspectorial staff of only one person for 68,000 inhabitants; and instances are given to show how advances in sanitary matters are rendered futile, by reason of the want of means for supervising the sanitary circumstances of the district. In concluding his report, Dr. Munro urges that at the west end of the town, where bricks and mortar are now making rapid encroachment, an effort should be made to retain some open space. The advice is of the utmost importance, for nothing can possibly compensate in the future for the absence of adequate breathing spaces in the midst of our large and ever-growing towns and cities. Appended to the report is an interesting review of the vital statistics of the borough for seventeen years, which shows a considerable saving of life. Indeed, comparing 1871-80 with 1881-87, no less than 1855 lives have been saved in the latter period which would have been forfeited had the deaths been maintained at the rate of the previous period.

Tunbridge Wells Urban District.—This district has more than once been favoured with a low death-rate, and that for 1887 was only 13·4 per 1000; the zymotic rate was also only 0·4 per 1000, which is most satisfactory for a district of some 30,000 inhabitants. Fortunately the town possesses a sanatorium, which is made useful in preventing the spread of infection by reason of an early notification of the infectious fevers. There is also a summary of excellent current sanitary work in Mr. W. Samford's report, together with evidence that supervision of the conditions liable to affect health is well maintained.

Northampton Urban District.—Northampton had an excess of zymotic diseases last year, and scarlet fever was very generally prevalent, the greatest fatality occurring amongst the labouring classes, who have no means for securing isolation in their own homes. This town has so far failed to appreciate the need of an efficient sanitary hospital. It only possesses a shed, which is not worthy of the name of a hospital; and when scarlet fever or a similar disease comes, the aid of the Poor-law authority is sought, and, as the result of this pauperising tendency, the attempt at isolation is almost as ineffectual as if no means whatever existed for carrying it into effect. It seems time that the results in other towns should be taken to heart in Northampton, which contains so large a proportion of houses in which effectual isolation cannot possibly be maintained. Measures of disinfection seem to have been adopted on a fairly large scale; but these processes rarely succeed under the circumstances of a town, except as a part of a properly organised system for the prevention of infection. The general death-rate for 1887 was 18·8 per 1000 living.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5412 births and 3265 deaths were registered during the week ending August 25th. The annual rate of mortality in these towns, which had been 17·6 and 16·4 per 1000 in the preceding two weeks, rose again last week to 18·1. During the first eight weeks of the current quarter the death-rate in these towns averaged but 16·3 per 1000, and was 4·8 below the mean rate in the corresponding periods of the ten years 1878-87. The lowest rates in these towns last week were 11·5 in Bristol, 13·0 in Brighton and in Derby, 13·1 in Sunderland, and 13·4 in Birmingham. The rates in the other towns ranged upwards to 24·1 in Leeds, 27·4 in Leicester, 28·7 in Wolverhampton, and 31·8 in Preston. The deaths referred to the principal zymotic diseases, which had increased in the preceding four weeks from 311 to 486, further rose last week to 639; they included 401 from diarrhœa, 71 from whooping-cough, 68 from measles, 49 from scarlet fever, 25 from diphtheria, 23 from "fever" (principally enteric), and only 2 from small-pox. No death from any of these principal zymotic diseases was recorded during the week, while they caused the highest death-rates in Leicester, Wolverhampton, Preston, and Leeds. The greatest mortality from diarrhœa occurred in Wolverhampton, Norwich, Salford, Liverpool, Preston, Leeds, and Leicester; from whooping-cough in Sheffield, Birkenhead, Manchester, and Wolverhampton; from measles in Bradford; from scarlet fever in Preston, Norwich, Derby, and Blackburn; and from "fever" in Birkenhead. The 25 deaths from diphtheria included 17 in London and 3 in Manchester. Small-pox caused 1 death in Nottingham and 1 in Oldham, but not one in London or in any of the twenty-five other great towns. The Metropolitan Asylum Hospitals and the Highgate Small-pox Hospital contained only 4 small-pox patients at the end of the week. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital was 783 at the end of the week, against numbers declining in the pre-

ceding seven weeks from 924 to 774; 83 cases were admitted during the week, against numbers declining in the previous four weeks from 105 to 66. The deaths referred to diseases of the respiratory organs in London, which had been 183 and 167 in the preceding two weeks, were 172 last week, and were 7 below the corrected average. The causes of 78, or 2·4 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Sunderland, Portsmouth, Brighton, and in four other smaller towns. The largest proportions of uncertified deaths were registered in Sheffield, Halifax, and Oldham.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 15·6 and 17·3 per 1000 in the preceding two weeks, declined again to 16·7 in the week ending Aug. 25th; this rate was 1·4 below the mean rate during the same week in the twenty-eight large English towns. The rates in these Scotch towns ranged from 13·5 in Aberdeen and 13·9 in Dundee, to 19·2 in Perth and 21·1 in Paisley. The 421 deaths in the eight towns showed a decline of 17 from the number in the previous week, and included 16 which were referred to diarrhœa, 10 to "fever" (principally enteric), 5 to measles, 4 to scarlet fever, 4 to whooping-cough, 3 to diphtheria, and not one to small-pox; in all, 42 deaths resulted from these principal zymotic diseases, against 44 and 43 in the preceding two weeks. These 42 deaths were equal to an annual rate of 1·7 per 1000, which was 1·9 below the mean rate from the same diseases in the twenty-eight English towns. The deaths attributed to diarrhœa, which had been 22, 18, and 20 in the preceding three weeks, declined last week to 16, of which 11 occurred in Glasgow. The 10 deaths referred to "fever" showed a considerable increase upon the numbers returned in recent weeks, and included 3 in Glasgow, 3 in Edinburgh, and 2 in Greenock. The 5 fatal cases of measles, of which 4 occurred in Paisley, were within 1 of the number in the previous week; while the 4 of scarlet fever showed a decline of 2. The 4 deaths from whooping-cough were fewer than in any previous week of this year, and were all returned in Glasgow; and the 3 fatal cases of diphtheria corresponded with the number in the previous week. The deaths referred to acute diseases of the respiratory organs in the eight towns, which had been 45 and 55 in the preceding two weeks, further rose last week to 70, and exceeded the number in the corresponding week of last year by 2. The causes of 62, or nearly 15 per cent., of the deaths registered in the eight towns during the week were not certified.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been 21·1, 19·4, and 18·2 per 1000 in the preceding three weeks, further declined to 17·9 in the week ending August 25th. During the first eight weeks of the current quarter the death-rate in the city averaged 19·6 per 1000, the mean rate during the same period being 16·2 in London and 15·5 in Edinburgh. The 121 deaths in Dublin showed a further decline of 2 from the numbers in recent weeks; they included 4 which were referred to diarrhœa, 3 to measles, 2 to "fever" (typhus, enteric, or ill-defined), 1 to scarlet fever, and not one either to small-pox, diphtheria, or whooping-cough. Thus 10 deaths resulted from these principal zymotic diseases, against 21, 12 and 13 in the preceding three weeks; these were equal to an annual rate of 1·5 per 1000, the rate from the same diseases being 3·8 in London and 1·2 in Edinburgh. The 3 fatal cases of measles were the first recorded in the city since the middle of July; while those of "fever" and diarrhœa showed a decline from the numbers in the previous week. Six inquest cases and 6 deaths from violence were registered; and 42, or more than a third, of the deaths occurred in public institutions. The causes of 12, or 10 per cent., of the deaths in the city were not certified.

VACCINATION GRANTS.—The following gentlemen have received the Government grant for efficient vaccination in their respective districts: Mr. John Winnall George, public vaccinator of the Malvern and Leigh districts, Worcestershire (fourth time); Mr. John Hamilton, Swadlincote, Burton-on-Trent (sixth time).

Correspondence.

"Audi alteram partem."

IN WHAT DOES CANCER CONSIST?

To the Editors of THE LANCET.

SIRS,—No disease has a more extensive literature than cancer (I use the word in its older and more comprehensive sense), and such being the case, one is somewhat chary in adding to its unwieldy bulk; but I observe that you are liberal in allowing your readers to express their views on this dread disease, and therefore I venture to state what I conceive to be the true explanation of the case, and I am all the more willing to do this because my views, although largely in harmony with recent thought, were formed quite independently; I mean that they have been uninfluenced by the modern literature of the subject. I mention this fact simply and solely because it is of argumentative value. Cancer is a localised tissue dissolution. Of this there can be no doubt, for the process fulfils all the terms of Herbert Spencer's formula. The dissolution is however incomplete, for were it complete there would be death of the part. It is necessary to observe that such partial tissue dissolution may occur in two ways: (1) by a partial undoing of evolution, as in progressive muscular atrophy, in which the anterior ganglion cells undergo a process of inverted evolution; (2) by a more or less complete dissolution, followed by partial evolution, as in the production of an imperfect tissue after inflammation. Now it is evident that in both these cases the result is the same—namely, a falling away of the affected tissue from its previous evolutionary level; the process is, in fact, a dissolution. There is no need to state here the exact part taken by dissolution and partial evolution, respectively, in the several varieties of cancer; it is sufficient to observe that the sarcomatous process is almost entirely dissolutionary, but that partial evolution plays an important part in the carcinomata, for in them the affected tissue is first reduced to an embryonic form, and then subsequently undergoes an incomplete evolution. Inasmuch as cancer is a localised, incomplete dissolution, it follows that the process must be largely tinged with an element of reversion, for if an organic aggregate undergoes partial dissolution—becomes partially unbuilt, or what comes to the same thing, becomes partially rebuilt after having been previously unbuilt—it must tend to exhibit characters which it displayed at some one or other period of its evolutionary career.

Let us now seek for the cause of the cancerous dissolution. Let S represent the structure of an individual tissue cell and its connexion with other cells; let E represent the cell environment. Then the formula S + E will represent a set of material conditions, out of which the vital action issues. The behaviour of S will of course largely depend upon the nature of the E. If the E be normal, the S will run through its vital career in orderly fashion, subject of course to such vitiated hereditary tendencies as it may contain; but if the E be abnormal, the S will undergo change. Now, in cancer, the cell suddenly breaks away from its connexion with other cells, and subsequently undergoes a series of dissolutionary and partial-evolutionary changes. There is only one way in which this can be effected—namely, by an alteration in cell environment. Sudden dissolution can never occur in any aggregate without sudden alteration of environment. We may therefore say with *absolute certainty* that the cancerous process is due to alteration in the cell E. What is the nature of this E? I have no doubt that it consists of a parasite. The arguments in favour of this view are so obvious to anyone who will think over the matter that there is no need to mention them here. We have arrived thus far: cancer is a localised reversion due to a specific parasite. It is now necessary to add that the reversion is not true or exact; cancerous tissue was never at any evolutionary epoch normal. A mal-environment of sufficient virulence to cause cancerous dissolution cannot possibly lead to a true reversion. Let us suppose, for the sake of argument, that the affected tissue undergoes in the first place a true reversion; the parasitic irritation would very soon cause vitiation of the same—a natural variation, as it were, of the true ancestral state; for unless the cell environment be exactly like that which obtained during the particular evolutionary epoch to which the reversion belongs, we cannot possibly

get a true reversion. I have, for argument's sake, supposed the reversion to be true in the first place, but it is obvious that the process will be vitiated from the very beginning. We may therefore define a cancer as a *localised vitiated reversion due to parasitic irritation.*

An apparent difficulty here presents itself. The secondary tumours are more or less exact reproductions of the primary tumour. How, it may be asked, are we to account for the tissue secondarily affected undergoing the same process of reversion as that primarily affected, even although the evolutionary history of the two be quite different? I can only give one example—squamous epithelioma secondarily affecting the glands of the neck. How can lymphoid tissue and mucous membrane revert to the same epitheliomatous type? I pass by the spermatic theory as unworthy of mention; indeed, this theory involves a misconception of what true spermatic influence is. The explanation is as follows: *epithelial cells plus the specific parasites* are carried away from the primary growth to the seat of secondary affection, and in this situation these epithelial cells behave in exactly the same way, under the same form of irritation, as at the primary seat, the tissue secondarily affected only sharing in the process in so far as it may form the stroma of the tumour. The epithelioma parasite can probably only thrive in a certain kind of epithelium. If carried to a tissue containing the proper epithelium this tissue becomes actually transformed like the primary tissue; but if the parasite be carried to a tissue not containing the needful epithelium, the part will not become secondarily affected unless some epithelial cells are carried away from the seat of primary affection. Space will not allow me to give other examples.

Finally, the question has to be answered: On what does proclivity to cancer depend? In my view, every *individual possesses the potentiality of every form of cancer.* Given the specific cell mal-environment of a certain tissue, and the same form of dissolution or vitiated reversion will occur in all. If only the parasite can multiply in the body and manufacture the poison (which is probably the immediate cause of the dissolutionary process) malignant change will occur in all. The immunity from cancer depends upon the ability of the tissues to prevent this parasitic growth, and not upon their inability to take on malignant change if subjected to the necessary mal-environment; and, on the other hand, proclivity to cancer depends upon the inability of the tissues to prevent this parasitic growth.

I am, Sirs, yours faithfully,

August, 1888. HARRY CAMPBELL, M.D.

THE BACTERIOLOGY OF YELLOW FEVER.

To the Editors of THE LANCET.

SIRS,—Since the publication, in your issue of July 21st, of your well-drawn abstract of the *résumé* given by Dr. Delgado and myself of our bacteriological investigations on yellow fever in Havana, we have obtained results confirmatory of our previous observations, and suggestive of a modification in the methods of cultivation which, if uniformly adopted, might avoid, it is hoped, future discrepancies between different observers.

Some of the criticism to which our "tetragenous microbe" has given rise might perhaps have been obviated by substituting some more comprehensive name, inasmuch as the characteristic feature of the Meristeæ (van Tieghem), consisting in the division of successive cocci in two perpendicular directions, does not always, in our case, culminate in the production of a pure tetrad. In drop cultures from pure colonies but a few days old, monococci and diplococci, and also chains mostly of *four*, but sometimes of three, five, or six, are seen oscillating and twisting about in the field. The monococci split into diplococci, and the latter into triangular groups of three and in tetrads. Many are seen as diplococci which in reality are perfect tetrads, as shown when, by twisting around, the four beads momentarily come into view, and also when, after drying and staining, the number of tetrads is found to be much greater than they appeared to be in the liquid drop. The chains are not usually straight, but more or less curved, or even bent at an angle; their formation may be due to some circumstance which has delayed the tendency to a lateral development. The cocci in these chains are apt to multiply *in situ* without dissociating from the others, whereby new beads appear at the sides or extremities, producing longer irregular chains with, maybe, a tetrad in its course. During the "monococcus stage" the grouping, especially in dried preparations, may present all the characters of a "staphylococcus," and the chains might be called "streptococci"; but the fact that all these forms are found in the same culture, inoculated from a well-isolated colony in an agar Esmarch tube, shows that they are but phases of development of one and the same micro-organism. The property of liquefying gelatine might possibly appertain to one of these forms and not to the others. In the case of which Dr. Sternberg obtained "a micrococcus in tetrads, a streptococcus, and a liquefying staphylococcus" from a piece of preserved kidney, such an occurrence might be suggested; but the fact that a short bacillus was subsequently found in the same colonies would account for the liquefaction without recurring to that assumption. During the last six weeks I have endeavoured to clear up the two following questions:—

1. Whether the microbe in tetrads and short chains observed by us during the epidemic season of 1887 would again be obtained this year, when proper precautions would be taken to guard against the inclusion of germs previously lying on the surface of the skin.

2. Whether, in violent cases of yellow fever running such a rapid course as to exclude every likelihood of a "mixed infection" (which I believe occurs in most of the *melænic cases*), a *technique* could be devised to bring into evidence the primary germs of our micrococcus supposed to exist in the tissues.

The first point we have investigated by taking surface cultures according to Dr. Sternberg's method, after washing the patient's finger with soap and water and strong alcohol, and again after additional washing with 1 per cent. of bichloride and a second time with alcohol. The cultures, after the first washings (without bichloride), have sometimes shown the presence of surface germs and at other times not. Those after the bichloride application have hitherto remained sterile. In one case, in which both cultures remained sterile, the blood collected at the spot from which they had been taken produced colonies of our micrococcus in tetrads and short chains, and also a short bacillus, single or in chains, the latter resembling Babès' yellow fever *chainettes*. Blister serum, obtained with due precautions, likewise gave colonies of the same micrococcus and others of the bacillus in Babès' *chainettes*. This was a "melænic" case, with abundant black vomit, death occurring on the same day in which the serum was collected; it is possible, therefore, that the bacillus may have proceeded from a "mixed infection," originated in the gastro-intestinal tract.

For the purpose of investigating the second question we have been fortunate in obtaining a necropsy, three hours after death, in a case which proved fatal on the third day of illness, the diagnosis being founded on the usual symptoms: albuminuria, yellowness of the conjunctivæ (intensely marked after death), and congested mottled liver. No black matter or blood had been ejected during life, and only a grey-white semi-liquid mass was found in the stomach and intestines. We collected juices from the liver, kidney, and spleen in sterilised "bouillon bulbs," according to Dr. Sternberg's plan, every precaution being taken. Pieces of liver, kidney, and spleen were soaked in a 1 per cent. solution of bichloride, and wrapped in several layers of cloths steeped in the same solution. Some of the intestinal contents had been collected in dry bulbs. The *technique* which we adopted, as the result of previous experience, consisted in introducing the material to be examined in sterilised gelatine (15 to 20 per cent.), remaining semi-fluid between 30° and 32° C. (the prevailing temperature at the time), keeping the tubes in a slanting position, and preparing agar-agar Esmarch tubes from any sediment or film which might appear in the gelatine. The bouillon bulbs containing juices from the liver, kidney, and spleen, produced a whitish sediment after some forty-eight hours, which developed, in agar Esmarch tubes, round, pale straw-coloured, smooth-edged colonies, consisting of our micrococcus in tetrads and short chains. Those proceeding from the liver were larger and more developed, and those from the spleen the least so. The intestinal contents produced after a few hours a white film, which afterwards sank to the bottom, and gave in agar Esmarch tubes whitish colonies, round or with a notched border, consisting of a short bacillus, single, or in chains of two or three, with oscillatory movements, but not actively mobile. The preserved piece of kidney was

unwrapped after forty-eight hours; it looked quite fresh, and was free from smell. Direct preparations, with slides besmeared from the central portions and stained with Löffler's alkaline blue, showed micrococci in pairs and in short chains, with a few tetrads, each group being surrounded by a clear zone, as if enclosed in a capsule. A bouillon bulb was charged from the central portions, and gave a whitish sediment in the gelatine tube, which produced in the agar Esmarch tubes the same pale straw-coloured colonies of our micrococcus in tetrads and short chains. The preserved piece of spleen was found in equally fresh condition, but the slide besmeared from the cut central portion only showed a few groups of cocci. The bouillon bulb scarcely produced any sediment in the gelatine, from which no distinctly visible colonies were formed in the Esmarch tube, but only a few very small ones which never developed. The bichloride had probably diffused too freely through the substance of the organ. The piece of liver emitted a strong smell, and was therefore discarded. Stick cultures of all these colonies grew well in agar-agar jelly, subacid or neutral, those of the micrococcus forming a white or faintly yellow disc around the point of inoculation, whereas the bacillus produces a patch looking like paraffin wax.

In conclusion, it will be seen that our first question has been answered in the affirmative, and that our method of cultivation has proved, in this instance, remarkably successful. Our object in adopting it has been to place the primary germs in a less resisting medium than the hardened gelatine or agar-agar film of Esmarch tubes. After germination had once been started no further difficulty was to be expected. Perhaps with this method our former failures during the winter months may hereafter be avoided by providing a culture stove at 30° to 32° C.; but I am still of opinion that the primary micro-organism of yellow fever is apt to be destroyed, perhaps owing to a "mixed infection" in cases presenting suppression of urine, uræmic intoxication, or typhoid symptoms.

I am, Sirs, yours very respectfully,

Havana, Aug. 11th, 1888. CHARLES FINLAY, M.D.

POISONING BY HEMLOCK.

To the Editors of THE LANCET.

SIRS,—The following are the particulars of the cases of hemlock poisoning you mention in your issue of Aug. 25th.

On Aug. 6th I was hurriedly called at 2 P.M. to see a boy who was dying. On arrival, I found that a younger brother, aged five years and a half, had died an hour previously. The patient, eleven years of age, was partly unconscious, pupils dilated, and had a severe muscular spasm. I at once decided upon washing out his stomach, and with some difficulty got a large cork between his teeth, and passed the tube into his stomach. The fluid which came away at first was of a greenish-yellow colour, and had a strong odour of whisky, which he had previously taken. I continued the injections until the fluid which came away was quite clear. I then gave stimulants, ammonia, &c., and in a little time the boy was able to walk about. I ordered him to be put to bed, kept warm, and a mustard poultice to be applied over his heart. I then left the patient, and, on returning in less than an hour, I met Dr. MacIntyre, who attended the family, and who was first sent for. We decided the boy should have stimulants, and I handed the case over to Dr. MacIntyre. When driving by a few hours later I saw a crowd of people outside, and on making inquiries found the boy had died. The previous history of the case is as follows. On August 5th, B——, the oldest boy, went out to the Howas Gill Wood at 2 P.M. He came back at 4 P.M., and brought some hemlock stalk and green haws with him. The boys then commenced blowing the haws through the stem, and continued this game for about three hours, until at length they had a dispute about who should have the stem; and the mother, to settle matters, threw it in the fire. They went to bed as usual in good health. About 4 A.M. both the boys began to vomit. The youngest (J——) was very hot and thirsty. B—— vomited again at 8 A.M., and complained of headache. At 9 o'clock they were given some senna-tea. J—— lay "stupid" till 12 o'clock, when he was given a little whisky, shortly afterwards had a severe muscular spasm, and died at 1 P.M. B—— remained conscious till 1 P.M., though very drowsy, when he had a muscular spasm and became unconscious, and did not regain consciousness till after I had used the pump.

I made post-mortem examinations on the 7th inst. There was marked venous congestion of the brain in both cases. There was also slight redness of the upper portion of the intestinal canal. The intestines were very empty, and the boys appeared badly nourished. One point of great interest in the case is the length of time the poison took to act. The boy also seemed to be greatly benefited by the use of the stomach pump. Both varieties of hemlock grow in the neighbourhood, but I think in this case the plant used was the Conium maculatum.

I am, Sirs, yours faithfully,

ED. FRAZER, L.R.C.S.I., L.K.Q.C.P.

Consett, Aug. 25th, 1888.

SIRS,—My attention has been drawn to some remarks which appeared in your issue of August 18th, on the lamentable case of hemlock poisoning, by which two boys lost their lives recently at Consett, a few miles from Durham. You state therein that "it does not appear whether the plant was Conium maculatum or Cicuta virosa, or water hemlock or cowbane; probably the latter, because it is most common in the north of England." Kindly allow me to point out that this is a mistake, as the Cicuta virosa is not found at all in the county of Durham, and only very locally in Northumberland; indeed, it is scarce throughout the kingdom, as its census number 32 indicates. On the other hand, the true hemlock, Conium maculatum, is very common in the northern counties, as elsewhere; its census number is 101. There are about seventy species of umbelliferæ indigenous to Britain, and of these Conium maculatum and Chærophyllum temulum, the rough chervil, alone have the stems stained with purple maculæ, so that this forms an excellent differential diagnosis in most cases.

I am, Sirs, yours faithfully,

Sunderland, Aug. 31st, 1888. W. S. HARRISON, M.A.

"A DICTIONARY OF MEDICAL SPECIALISTS."

To the Editors of THE LANCET.

SIRS,—In common, I would fain believe, with the majority of those members of the medical profession who, from taste or force of circumstances, are practising as "specialists" (the name is very distasteful to many of us), I am much indebted to you for the leading article in your issue of August 25th upon the circular which has been issued in reference to the above-mentioned "Dictionary." I found one of these circulars awaiting my return from a holiday two days ago, and I have been not a little distressed to think that even if I consign it to the waste-paper basket my name may appear in the first number of the "Dictionary," probably without any evidence that the data given were not supplied by me to the editor.

I hope you will, in the interests of true specialism, still further use your influence to prevent the publication of the proposed volume, which I am convinced will do much harm to our profession. Apart from the objections which you have raised to it, and which I cordially endorse, I think a serious breach might be opened between consultants and general practitioners if the public were put in possession of a "Dictionary" such as that proposed in the circular. I cannot help thinking that the editor has, before drawing up and sending out these circulars, omitted to obtain the opinion of members of his sister profession. I have written to him asking that he will not insert my name, and I hope he will get many similar letters. Should he think fit to do so in spite of this request, it will be necessary to ascertain what further steps can be taken in the matter by the aid of his brother lawyers. I sincerely hope that all specialists will act on your advice, and not only decline to supply data for the "Dictionary," but also record their emphatic protest against such a publication.

I remain, Sirs, yours &c.,

London, August 28th, 1888. OPHTHALMIC SURGEON.

CAVENDISH COLLEGE, CAMBRIDGE.—The following appointments have been made at this College:—Tutor, Mr. W. H. Whitfeld, M.A.; Tutor and Dean, Rev. A. E. Herrman, B.A.; Superintendent of Medical Studies, Mr. J. Griffiths, M.B., M.C., assistant to the Professor of Surgery.

NORTHERN COUNTIES NOTES.

(From our own Correspondent.)

AMBULANCE WORK AMONGST NORTHERN MINERS.

THE report of accidents in the ironstone mines of Cleveland for the six months ending June 30th, 1888, has just been issued. It contains the names of no fewer than 423 miners who have sustained injuries whilst following their employment, of which number six were either killed outright or died afterwards from the effects. These figures compare with a total of 428 accidents, of which six were fatal, in the previous six months. The general secretary of the North Yorkshire and Cleveland Miners' Association very appropriately directs attention in the report to the importance of ambulance work, and states: "Since ambulance work commenced in Cleveland there has been a very serious exodus from the district, upwards of 2000 men and boys having left. Many of these were members of the ambulance corps at the mine in which they were employed, and during the past few years the number of those qualified to render 'first aid' to an injured person has been very considerably reduced." Mr. R. Rowland, the general secretary, then enumerates the various mines at which classes have been formed during the last six months to make up the loss, and shows that these have been joined by 262 members. Of that number, 204 presented themselves for examination, and 195 passed. He shows that probably the principal object, and certainly the most valuable feature, of ambulance work is that, when the men are at work, there are amongst themselves persons who can render immediate assistance in case of accident. Every flat siding or district of a mine ought to have among the miners at least 10 per cent. of trained ambulance men, and every foreman and deputy ought to be qualified to render "first aid"; for if when an accident occurs the members of the ambulance corps are to seek for help in another portion of the mine, the most serious results may follow the delay. He shows how to carry out this suggestion, which would of course necessitate the expenditure of a considerable amount of money. Up to the present the owners have paid the whole of the expense, but if the men would subscribe 3*d.* per year each towards this desirable object, 5 per cent. of those employed could be instructed. Mr. Rowland shows very clearly that until this is done the ambulance question cannot be considered as satisfactory, and he makes an earnest appeal to the workmen, which is to be hoped will be followed by fruitful results.

ICED SWEETS.

At the Leeds Town Hall, on Monday last, an inquest was held on the body of a little girl aged seven. The evidence showed that on the preceding Friday the child ate a pennyworth of the popular iced sweet known as "hokey-pokey," and became ill, dying on the following day after much suffering Mr. W. H. Brown, surgeon, who made a post-mortem, said the death of the deceased was due to gastric irritation, brought on by eating the "hokey-pokey," which caused vomiting and diarrhœa, lasting twenty-four hours. Mr. Brown added that other deaths had occurred during the last two or three years through eating iced sweets. The jury returned a verdict in accordance with the medical evidence.

GATESHEAD.

Our sister borough, Gateshead, now enjoys the privilege of having one of the lowest death-rates (for towns of its population) in the whole kingdom—viz., about 12 per 1000. I have not heard the official estimate of the population of Gateshead just now, but it cannot be far from 80,000.

CARLISLE.

At the last meeting of the Carlisle Microscopical Society, Dr. Carlyle read a paper on the fungi of the district, illustrated by some hundreds of specimens from his own collection. He was requested by the Society to compile a list for the use of members and students. Dr. Carlyle has discovered several new genera, which have been named after him by the Kew officials.

DURHAM.

I have to record another sad case of poisoning by carbolic acid, near Durham, the victim being a little child two years of age, whose father was lying ill from typhoid fever. The poison was left in the house for disinfecting purposes, and the child, getting up in the night for a drink, went to the jar containing the acid and took a draught of it, death ensuing in about three hours, after great suffering.

Newcastle-on-Tyne, August 27th.

DUBLIN.

(From our own Correspondent.)

ROYAL UNIVERSITY OF IRELAND.

THE sixth report of this University shows the steady progress which the institution has made during the past year. The total number of candidates at the various academical examinations of the University during 1887 was 3106, or an increase of 173 as contrasted with the previous year. The number of women students, it should be noted, is yearly increasing, and some of the female students have been awarded honours of a very distinguished character. The equipment of the laboratories has been proceeded with, and the arrangements are very complete. The Vice-Chancellor (Lord Emly) in his report refers to the endowment provided for the University as inadequate, in consequence of a very much larger number of candidates having entered for the various examinations than was anticipated. The University authorities had set down 2100 as the extreme limit of students that could be expected; but in 1885 it was 2890, in 1886 it was 2933, and last year 3106, or one-third more than had been estimated when the amount of the endowment was settled.

CORK DISTRICT LUNATIC ASYLUM.

This institution was originally constructed for 500 inmates, but since then has had large additions made to it from time to time, the more recent of them being finished about six years ago. It is overcrowded by at least eighty beds, and still more so in regard to an ordinary day-room provision. The structure is placed on a rapid acclivity, which primarily necessitated deep cuttings, and as the available flat in the rear is already covered by two apartments of large dimensions, no further additions should, in the opinion of the inspectors of asylums, be undertaken. The Poor-law guardians of the borough are desirous of an arrangement which would facilitate the removal of their imbecile and chronic insane from their union. Apart, however, from any outside consideration, the land attached to the asylum is ill adapted and much too small for the proposed scheme. It is suggested that any supplementary provision for the insane poor of the Cork district should be made in the West Riding, and at the conjoint expense of the whole district.

Dublin, Aug. 28th.

PARIS.

(From our own Correspondent.)

BROCA'S CONVOLUTION.

IN a work entitled "Study of Cerebral Morphology," Dr. G. Hervé, one of the most zealous disciples of Paul Broca, and himself a distinguished anthropologist, gives a very good description of the convolution of Broca, of which the following is an abstract:—The convolution of Broca extends to the orbital lobule, where it terminates in forming the frontal pole situated at the posterior extremity of the olfactory tract. The cerebral type of the primates is a type of two frontal floors, and the convolution of Broca only begins to appear in the anthropoids formed by the division of the second primary frontal floor. It constitutes in the anthropoids and in man a fourth frontal, the second frontal comprising in reality two convolutions. The development of the convolution of Broca in the fœtus reproduces it in the development in the series; that of the *right* side is nearly always more precocious. In the microcephales the centre for memory of words is either absent (first type), or rudimentary as in the anthropoids (second type), or constituted as in a normal individual (third type). Nearly always in idiots, imbeciles, and deaf-mutes, and often in the inferior races, the centre in question is more or less atrophied, rudimentary, or arrested in its development.

In intellectual individuals the morphological complexity of the centre of Broca's convolution is, in a general way, correlative to the power of the function.

TREATMENT OF ANEURYSM.

At a recent meeting of the Academy of Medicine, Dr. Dujardin-Beaumetz read a note for Professor Germain Sée, who was unavoidably absent. The note is composed of three parts: the first is relative to a curious coincidence of the presence of bacilli in aneurysms, and the others treat of the methods of internal treatment. This work is the result and the *résumé* of observations collected during a great number of years, and comprises twenty-four cases which were regularly followed during a long space of time; all the others have no value, as they were lost sight of. Professor Sée observes that there is a singular coincidence of aneurysm with pulmonary phthisis, and puts the question whether it is by the parietes of the aorta that the bacillus penetrates the aneurysm—a question which, he said, he was not in a position to answer satisfactorily. In any case, this interesting observation of the phthisis of aneurysmal subjects remains a scientific fact. In the second part of his work M. Sée deals with aneurysms, and their treatment by iodide of potassium and antipyrin, the good effects of which in these cases Dr. Dujardin-Beaumetz said he was able from his own experience to confirm. After having established the physiological action of iodine on data of the most positive clinical experience, M. Sée draws a curious parallel between the two iodides commonly in use. He demonstrates that iodide of sodium is a theoretical medicament, and is not equal to the iodide of potassium, which is manifestly superior to it in maladies of the heart and of the vessels, precisely because in small doses the salts of potash act, according to Traube, in the most distinct manner on the musculo-motor system, and even on the inhibitory nerves of arrest of the heart, whereas it is only toxic when employed in subcutaneous injections in strong doses. Iodide of potassium, when ingested, never becomes toxic, even in doses of ten or fifteen grammes per day; any toxic effects produced are to be attributed to the iodine, and not to the potassium. The third part of the work is relative to the simultaneous employment of antipyrin with iodide of potassium. According to Professor Sée, antipyrin, far from having, as believed by certain medical men, a pernicious influence on the heart, has, on the contrary, the most remarkable effects on the central organ of the circulation. It calms the impulsion of the heart, which is exaggerated in aneurysmal subjects, and permits the blood to complete its coagulation, which singularly favours the cure. But the most remarkable effect of antipyrin is this: the greater number of aneurysmal subjects experience at the arch of the aorta and in the region of the heart, sharp pains, painful cardiac oppression, and very often sensations of anguish, exactly as in angina pectoris; antipyrin dissipates all these painful and dangerous symptoms. Dr. Dujardin-Beaumetz concurs with Professor Sée as to the good effects of antipyrin, but he very much prefers phenacetine, as the former, when administered for any length of time, produces nearly always cutaneous eruptions, whereas this cannot be said of phenacetine, which never occasioned untoward symptoms, even when given for months in large doses. It is equally preferable to acetanilide, which produces cyanosis. In fine, phenacetine is not toxic. Dr. Dujardin-Beaumetz was able to administer to an animal as much as three and four grammes per kilogramme of its weight without observing any accident. The only inconvenience of phenacetine is its not being very soluble; it is necessary to administer it in wafers; but its analgesic effects are obtained with a dose of half the amount of that of antipyrin. Dr. Dujardin-Beaumetz, like Professor Sée, condemns all surgical interference in the treatment of aneurysms of the aorta.

M. PROUST'S REPORT ON VACCINATION AND REVACCINATION.

The important question of the utility of vaccination and of revaccination may now be considered a problem completely solved, if one may judge by the statistics given by M. Proust in his recent report to the Academy of Medicine on the subject. M. Proust observed that in Germany, where vaccination is compulsory, small-pox has been removed from the statistics of the causes of death. In Berlin the proportion of deaths from small-pox is 1½ out of 100,000 inhabitants; at Paris it is 136—that is to say, 4000 per year!

M. CHEVREUL

completes to-day the 102nd year of his age, in honour of which the students had intended to organise a respectful "manifestation" to their venerable *doyen;* but this, unfortunately cannot take place, as he is too feeble to receive the deputation. Although M. Chevreul is not labouring under any special complaint, he has become so infirm that he is obliged to pass the greater part of his time in bed. For more than three months he has not been able to attend the meetings of the Institute, of which he has hitherto been one of the most active members.

Paris, August 25th.

THE SERVICES.

SOLDIERS' RATIONS.—In consequence of recent complaints as to the quality of rations supplied to troops quartered at home, authority has been given by the Horse Guards for the formation of classes in which officers may be instructed in the methods of judging the quality of all kinds of provisions, forage, &c., and facilities are to be given for the attendance of officers generally.

ADMIRALTY.—The following appointments have been made:—Surgeon William H. Norman, to Yarmouth Hospital, (dated Aug. 25th, 1888); Fleet Surgeon James D. Smith, to the *Canada;* Fleet Surgeon Edward W. Doyle, to the *Euphrates;* Staff Surgeon Alfred T. Corrie, to the *Rupert* (all dated Aug. 27th, 1888); Surgeon Horace Elliott, M.D., to the *Tyne,* and Surgeon Andrew D. Peyton, to the *Northumberland* (both dated Sept. 7th, 1888).

Obituary.

DR. FERDINAND WALTER.

THE University of Munich lost one of the most promising of its teaching staff when, on the night of August 23rd, Dr. Ferdinand Walter died.

He was born in 1862, the grandson of the famous law professor, Walter, in Bonn, and the son of a physician who left an honoured name behind him in the Rhein-gau, where he practised till his death in 1864. Like his father, Ferdinand Walter devoted himself to the medical career, and concluded a brilliant preparatory course by graduating with honours—his prize thesis (on the "Osteology and Muscular System of the Indigenous Amphibia and Reptilia homologically considered") attracting much attention on its publication in 1884. He now gave himself heart and soul to practice, and under the special tuition of Dr. Heinrich Ranke he qualified himself as physician in children's diseases. He speedily rose to success in this department, his pleasant address and amiable disposition co-operating effectively with his medical knowledge and discernment. As *privat-docent* in the Munich school, he was in the act of preparing a course of lectures when death—to the great grief of his colleagues and his numerous admirers, professional and lay—cut him off in his twenty-sixth year.

Medical News.

ROYAL COLLEGE OF SURGEONS.—We would again remind our readers that the library of the College will be closed during the month of September, for cleaning purposes.

AN infectious diseases hospital is about to be added to the County Lunatic Asylum at Devizes. The cost will be about £1900.

MEDICAL MAGISTRATE.—Adam Fletcher, M.D., L.R.C.P. Edin., M.R.C.S., L.S.A., of Bury, Lancashire, has been placed on the Commission of the Peace for that borough.

MORTLAKE INFECTIOUS HOSPITAL.—The Local Government Board have sanctioned the erection of the Infectious Diseases Hospital at Mortlake, respecting which a four days' inquiry was held during the first week in July.

ROYAL VETERINARY COLLEGE, EDINBURGH.—In the annual competition for the Fitzwygram Prizes, held during the summer, Mr. John A. Gold, of Ladywood, Birmingham, and Mr. J. G. Clayton, of Wilmslow, Cheshire, Graduates of the "Dick" Veterinary College, obtained respectively the first and second prizes of £50 and £30.

THE NORTH BIERLEY UNION JOINT HOSPITALS BOARDS.—A copy of a provisional order has been received by the Cleckheaton Local Board for the formation of Cleckheaton, North Bierley, Wyke, and Hunsworth into a joint hospital district, and the necessary steps are ordered to be taken for the appointment of the Cleckheaton representatives.

AN inquest was held on Tuesday at Chatham Convict Prison, on the body of William Turnbull, a surgeon, aged sixty-two years, who was convicted in January, 1886, at the Central Criminal Court, for manslaughter, and sentenced to ten years' penal servitude. The deceased had been in hospital at the prison since the day after admission. A verdict of "Death from natura lcauses" was returned.

OPEN SPACES.—The Drapers' Company has granted £105 to the fund which is being raised for the acquisition of the North Woolwich Gardens as a public park for the district near the Victoria and Royal Albert Docks and Beckton Gasworks.—The Bishop of Bath and Wells formally opened last week a public recreation ground at Wells. The larger part of the ground was formerly known as Bell Close, and the other part as Conygar Paddock.

ST. JOHN AMBULANCE ASSOCIATION. — H.R.H. the Duchess of Connaught has attended a St. John Ambulance class for ladies at Poona, and has been awarded a certificate after passing a very satisfactory examination. Two large classes have also been held for men of the 1st Royal Fusiliers and 2nd Durham Light Infantry, by the same lecturer, Dr. Kilkelly, Army Medical Staff, and the certificates, forty-one in number, were presented on the 27th ult., by the Commander-in-Chief, the Duke of Connaught. A few days afterwards one of the successful candidates, Private Bancroft, rendered most valuable aid to an officer who was kicked in the temple by a pony, and would probably have bled to death, in the opinion of the medical officer in charge, had not Bancroft stopped the profuse bleeding from the temporal artery with the aid of the puggaree off his helmet.

BEQUESTS AND DONATIONS TO HOSPITALS.—Mrs. Sara Austen, late of Montague-place, Bedford-square, has bequeathed by her will £50 each to the Consumption Hospital, Brompton, the North London Hospital, and the Magdalen Hospital.—The late Mr. P. Gammie, of Stanhope-gardens, formerly Inspector-General of Army Hospitals, has left £1000 to the Army Medical Officers' Benevolent Society.—The executors of the late Mrs. Rachel Smith have sent to the managers of the British Home for Incurables £1205 4*s.* 3*d.*, the residue of the estate.—The trustees of the late Mr. E. Boustead (of Clapham) have paid over to the committee of the Surgical Aid Society £1000.—The Roundhay Park Gala, held on the 6th ult. (the Workpeople's Hospital Fund in Leeds), on behalf of the medical charities of the town, realised £346.—The late Miss Annie Lowther, Moresby House, near Whitehaven, has left £1000 to the Whitehaven and West Cumberland Infirmary.

PRESENTATIONS.—Dr. J. J. de Zouche Marshall, on his leaving Lamberhurst, where he had resided for fourteen years, to practise at Hastings, has been presented by his friends and the inhabitants with a testimonial, as a token of their esteem and regard, consisting of an illuminated address on vellum, bearing the names of most of the principal inhabitants, and a purse containing £25 10*s.* Addresses have also been presented from the Lamberhurst Equitable Benefit Society and Court "St. Mary," A.O.F.—Dr. Scanes Spicer was on Tuesday last presented with a handsome testimonial of plate by the officers of the Fulham Infirmary, of which he has recently resigned the appointment of medical superintendent, after four years' service.—Dr. Stewart of Newport, Fifeshire, on completing twenty-five years' practice in that town and neighbourhood, has been presented by his patients and others with £500 and a drawing-room clock, bearing an appropriate inscription, as a testimonial of their confidence in him as their doctor and of regard as a friend.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BELL, R. F., L.R.C.P.Edin., M.R.C.S., has been appointed Medical Officer of the Workhouse, and the Amersham and Penn Districts, Amersham Union.

BROADBENT, JOHN, M.R.C.S., L.S.A.Lond., late Honorary Surgeon, has been appointed Consulting Surgeon to the Hulme Dispensary, Manchester.

BUCHANAN, J. H., M.D. St. And., L.F.P.S.Glasg., has been reappointed Medical Officer of Health for the Thirsk Rural Sanitary District, Yorkshire.

LAXTON, T. P., L.R.C.P.Edin., M.R.C.S., has been appointed Medical Officer of the Second District of Bridgewater Union.

O'BRIEN, J. A., M.B.Glas., C.C.M., has been appointed Medical Superintendent of Sunbury Lunatic Asylum, Australia, vice Watkins.

RIDLEY, G. F., L.K.Q.C.P., L.M., L.R.C.S. Irel., has been appointed Surgeon of King's County Infirmary.

STEELE, H. O., M.R.C.S., L.S.A., has been reappointed Medical Officer of Health of Cleckheaton, Hunsworth, and Gomersal.

TONKS, HENRY, F.R.C.S., L.R.C.P., L.S.A., formerly of the London Hospital, has been appointed Senior Resident Medical Officer to the Royal Free Hospital, Gray's-inn-road, W.C.

WARD, EDWD., M.A., M.B., and B.C. Camb., M.R.C.S., has been appointed one of the Divisional Surgeons of the Leeds Police Force.

WATKINS, W. L., L.K.Q.C.P., L.M., L.R.C.S. Irel., has been appointed Medical Superintendent of Yarrow Bend Lunatic Asylum, Australia, vice T. T. Dick.

Vacancies.

In compliance with the desire of numerous subscribers, it has been decided to resume the publication under this head of brief particulars of the various Vacancies which are announced in our advertising columns. For further information regarding each vacancy reference should be made to the advertisement.

COURT FORESTER'S, AND SOCIETIES, 18, York-street, West Cowes, Isle of Wight.—Medical practitioners to attend sick members of the above Societies.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.—A Resident Clinical Assistantship. No salary, but board and lodging provided free.

GENERAL INFIRMARY, Hull.—House Surgeon. Salary 100 guineas per annum, with board and furnished apartments.

GENERAL INFIRMARY, Leeds.—Resident Medical Officer and Pathologist. Salary £100 per annum, with board, residence, and washing.

HOLLOWAY SANATORIUM FOR THE INSANE, Virginia Water.—Senior Assistant Medical Officer.

MANCHESTER ROYAL INFIRMARY, DISPENSARY, and Lunatic Hospital or Asylum.—Honorary Assistant Physician.

NEWPORT AND COUNTY INFIRMARY AND DISPENSARY, Newport, Mon.—House Surgeon. Salary £100 per annum, with board and residence, and £5 5*s.* per annum allowance in lieu of stimulants.

Births, Marriages, and Deaths.

BIRTHS.

LAING.—On the 24th ult., at 12, Clapton-square, the wife of J. M. Laing, M.A., L.R.C.S.E., of a son.

RENDALL.—On the 26th ult., at Charlotte-square, Edinburgh, the wife of Stanley M. Rendall, M.D., of Aix-les-Bains and Mentone, of a daughter.

TWINING.—On the 26th ult., at The Knoll, Salcombe, South Devon, the wife of Alfred H. Twining, M.R.C.S., of a daughter.

MARRIAGE.

MCCONNELL—SOWERBY.—On the 23rd ult., at St. Mary's Parish Church, Teddington, Surgeon-Major J. F. P. McConnell, M.D., F.R.C.P., Bengal Medical Service, to G. E. Violet Sowerby, daughter of William Sowerby, Esq., M.I.C.E.

DEATHS.

FOAKES.—On the 22nd ult., at Adisham House, Gravesend, John W. Foakes, M.D. Giessen, L.S.A., of South-street, Park-lane.

JARDINE.—On the 24th ult., at Chatham, J. Bell Jardine, M.D., aged 80.

NESBITT.—On the 27th ult., near Virginia Water, Surrey, Pearce Rogers Nesbitt, M.D., aged 85.

IN MEMORIAM.

WAKLEY.—On August 30th, 1886, at Heathlands-park, Longcross, Chertsey, Surrey, James Goodchild Wakley, M.D., for twenty-five years Editor of THE LANCET, youngest son of the late Thos. Wakley, M.P.

N.B.—A fee of 2*s.* is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 30th, 1888.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Aug. 24	29·68	S.W.	65	60	121	76	57	·04	Cloudy
,, 25	29·72	S.W.	63	59	119	73	59	·27	Cloudy
,, 26	29·97	S.W.	65	58	115	71	56	·09	Cloudy
,, 27	30·00	S.W.	62	57	101	71	55	..	Bright
,, 28	29·88	S.W.	59	57	72	63	57	·05	Raining
,, 29	29·91	S.W.	59	55	102	66	51	·72	Bright
,, 30	29·99	S.W.	60	55	110	67	50	·11	Cloudy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "to the Publisher."*

We cannot undertake to return MSS. not used.

THE STUDENTS' NUMBER OF "THE LANCET" will be published on Saturday next, Sept. 8th. Those gentlemen holding official situations connected with medical institutions in the United Kingdom who have not yet forwarded the necessary information to our Office for publication in that number are earnestly requested to send it *without the delay of a single post.*

GERMANS IN PARAGUAY.

IN reference to a German colonisation company, which has recently been formed for the purpose of establishing a dozen German colonies along the rivers in Paraguay and Parana, and in the neighbourhood of the railway connecting Asuncion with Encarnacion, a German landowner, who has been settled in South America for some twenty-five years, writes to warn German agriculturists that the climate of Paraguay is very unpleasant on account of its heat. The country, too, abounds in sand fleas and other vermin, and the weeds grow at a most appalling rate. He suggests that there are plenty of places in South America without these disagreeable adjuncts, where the climate is really suitable enough for Germans who may wish to form agricultural colonies. As to medical men, who, it seems, have been urged to come out from Germany to Paraguay, the medical journal in which the letter referred to is published suggests that, under the circumstances, they cannot expect to flourish if German colonies cannot exist, or at all events cannot prosper. The writer suggests that, though Paraguay is in his opinion unsuitable for Germans, there is no reason why colonies from warmer and more southern lands—say from Italy—should not do well, the climate being very much more like their own.

Graduate of Brussels.—1. The address of the Secretary is Dr. Pocock, 20, Golborne-road, Upper Westbourne-park.—2. No.

X. Y. Z. asks for information as to the usual rate of remuneration of a locum tenens for a length of time in New Zealand—say one year.

COCOANUT AS A VERMIFUGE.

To the Editors of THE LANCET.

SIRS,—A reference to Section 939 : 2 of the Medical Digest will show that in vol. i. 1881, p. 638, the value of cocoanut was mentioned in THE LANCET. I am, Sirs, yours faithfully,

Aug. 27th, 1888. RICHD. NEALE, M.D. Lond.

THE GOOD SAMARITAN'S SURGERY.

THE necessity for a revised version of the New Testament is very apparent in the authorised translation of St. Luke's Gospel, x., 34, where the evangelist, himself a medical man and particularly careful (see Mr. Hobart's treatise on the subject) in his use of medical terms, describes the Good Samaritan's treatment of the traveller who had been wounded by thieves on the highway. According to St. Luke, the Samaritan came up to the man, bound fast his wounds, and poured on the bandage (that is, immediately over the seat of injury) the oil and wine which in combination were the recognised application for such lesions at that time, and for centuries later, in the East. The authorised version is either unintelligible or it reflects on the good man's surgery. It makes him first bind up the wound, and then pour in the oil and wine; or it makes him pour in the oil and wine concurrently with his adjusting the bandage. The former rendering is unmeaning; the latter would make the practice more than questionable. The pouring oil and wine into an uncleansed wound was certainly what the evangelist would not have approved or the Samaritan practised. The truth is, the authorised translators have not accurately rendered the Greek. St. Luke's expression, *ἐπιχέων*, does not mean pouring in, but pouring on. The Vulgate version, "infundens oleum et vinum," appears to have misled them, as well as Beza, who, in his excellent Latin translation, preserves "infundens." The proper Latin equivalent for *ἐπιχέων* should have been "superfundens," or, better, "superinfundens." And then the translation would have run intelligibly and *secundum artem* thus: "and bound up his wounds, pouring on oil and wine." The passage is well handled in Canon Humphry's admirable Companion to the Revised Version (Cassell and Co.). About a hundred and fifty years after our Lord's time Galen prescribed for a wound on the head a remedy similar to that of the Good Samaritan: "Having taken some quite fresh olive leaves and pounded them in a mortar, you add *quantum sufficit* of oil and black—i.e., full-bodied—wine, and knead the whole into a paste, which you may apply to the seat of injury." The bandage saturated with the oil and wine was the Good Samaritan's equivalent for the Galenical epithem.

Enquirer.—The question of etiquette does not arise in this matter, as a medical man is legally bound to attend and give evidence upon the coroner's warrant, even though another doctor may have seen the case beforehand.

Dr. Macdougall (Carlisle).—Yes; very shortly.

MEDICAL OFFICERS OF HEALTH AND THEIR DEPUTIES.

To the Editors of THE LANCET.

SIRS,—Can a medical officer of health legally appoint as his deputy his assistant, who only holds the old L.S.A. licence?

I am, Sirs, yours truly,

Aug. 26th, 1888. SANITAS.

*** Where repayment is made out of the Parliamentary grant, no deputy medical officer of health is contemplated. In cases of sickness or other emergencies a "temporary substitute" can, however, be appointed; but he is required to hold the same qualifications in medicine and surgery as the principal medical officer of health, unless the Local Government Board, on the application of the sanitary authority, dispense with this requirement. Where no part of the salary of a medical officer of health is repaid, sanitary authorities act as they choose as to deputies; but such appointments are not, as a rule, encouraged, except in the case of very large cities, where an officer who already gives his whole time to the duties of his office requires further help.—ED. L.

N. B.—By Clause 35 of the Medical Act, 1858, all registered members of the medical profession are entitled to claim exemption from serving on juries. Notice of a desire to be exempted should be given to the overseers or vestry clerk of the district in which the claimant resides.

Ed. K.—Prosecutions under the Dentists Act are undertaken by the British Dental Association, the head-quarters of which are 40, Leicester-square, W.C.

Income Tax has not enclosed his card.

MEDICAL PRACTICE IN AUSTRALIA.

To the Editors of THE LANCET.

SIRS,—I shall be much obliged for any information about medical practice in Australia. What part of the country would be most suitable for a phthisical surgeon? Can comfortable board and residence be had at the inland stations, and at what rate? Is the voyage by sailing vessel usually more beneficial than by steamer? Is the food suitable for consumptives during the whole of the voyage by sailing vessel? What is the fare saloon to Australia or Tasmania? Which are the best lines? Any other information about the climate of either country will much oblige. I am, Sirs, yours faithfully,

August, 1888. POYLACT.

DROWNING.

To the Editors of THE LANCET.

SIRS,—In the holiday season, when so many seek exemption from labour, to their advantage both mentally and bodily, and generally spend part of the time by the sea and enjoy the luxury of bathing, one feels sometimes, on lifting the morning paper, so pained and saddened as to have little relish for breakfast, having read the sad account of Mr. —— or Miss —— having been drowned while bathing. As our profession is eminently humane, and as you are deeply interested in this phase of it, these facts must be my apology for trespassing on your valuable space.

I would like to call attention to another method of treatment in addition to those now employed in cases of drowning, for artificial respiration—viz., those of Howard, Hall, and Silvester,—in order, if possible, to secure its general use. This means is electro-cutaneous excitation of the precordial and dorsal regions. Although the mode of electric excitation to be preferred is faradisation of the phrenic nerves in the treatment of asphyxia, I am bound to notify the damage which attends its unskilful employment in the absence of a medical man. In these circumstances it is advisable to practise the former procedure, as it is a much more simple and safe method; and I claim for it great importance because, when applied to a certain zone of the precordial region, the points of the nervous centres are reacted upon which govern the innervation of the heart's action and of the breathing. And this form of excitation cannot be discarded if we are to do the best for the patient; for when respiration and the cardiac circulation have been re-established, and the patient exhibits symptoms of falling into a comatose state, thus indicating cerebral ischæmia due to carbonic oxide blood-poisoning, then this treatment is most valuable. I am satisfied electricity will modify or cure grave disorders of the cardiac circulation symptomatic of a paraplegic condition of the vagus, also disorders of the respiration, such as paresis of the expiratory bronchial muscles. The therapeutic influence exerted by electro-cutaneous excitation of the back of the chest over paralysis of the power of expiration, and its power to remove secretions from the lungs in lung paresis caused by the poison of diphtheria, indicates its use in asphyxia caused by submersion; because death after submersion is sometimes caused by water remaining in the air cells, though the patient may have temporarily recovered. This treatment might be used in the absence of a medical man by any intelligent person who has a proper induction battery at hand, and has had a few lessons how to proceed in a practical manner; for practice and theory are two very different things. I would therefore suggest, seeing the invaluable power of electricity in asphyxia, that at every bathing-place there should be one person present capable, and at a moment's notice, of using the electro-therapeutic remedy. This arrangement could be completed at every bathing-place at a trifling cost to each. Would we not be guilty, then, if we ignored a potent means of saving life?

I am, Sirs, yours respectfully,

Belfast, Aug. 24th, 1888. JOHN M. MACCORMAC, M.D.

IN reference to a paragraph in our last issue concerning a report of the death of Dr. McEwen of Glasgow, *Mr. Reginald H. Lucy, M.B.*, Asst. Med. Officer of the Post Office Medical Department, sends us the following explanation:—"In the early part of May, 1888, a Mr. McEwen, B.Sc.Glasg., M.B.Edin., and son of Mr. Wm. McEwen, late chairman of the Royal Infirmary, Glasgow, died of diphtheria. Being a close personal friend of the late Dr. Henry C. McEwen, I hasten to explain the probable source of the mistake."

Graduate.—We know of no book on the subject. So far as we are aware, the information can be obtained only from agents of the different steamship companies.

Mr. Macdonogh (Gravesend).—The suggestion has already been made in our columns.

"A QUERY."

To the Editors of THE LANCET.

SIRS,—In your last issue I notice a letter under the above heading, signed "M.D.," which reminds me of a similar case I had about a year ago. My patient, a man aged thirty, in good general health and with all his organs and functions normal, suffered from the very same symptoms as those described by your correspondent. He awoke with severe pain every morning at 6 A.M., and obtained relief only when he got out of bed. I tried various drugs, but without success, and finally advised him to discontinue smoking at night—a habit which he indulged in excessively after supper. He acted on my advice, and I am pleased to say that after the second night the pain was not experienced. I have every reason to believe that the excessive use of the weed was the sole cause of his pain, as its discontinuance was its cure.

I am, Sirs, yours truly,

Sunderland, August, 1888. L.S.A., L.R.C.P.

Mr. Wm. Mangell.—No; a certificate of proficiency in compounding and dispensing medicines must be obtained from Apothecaries' Hall.

Dr. C. W. Hayward.—The report has been received, and will shortly be published.

A. E. F.—The work named is no doubt the most suitable one for the purpose.

MUSHROOMS: POISONOUS AND EDIBLE.

THE *Radical-Liberal* of Geneva warns the public, travelling as well as resident, in Switzerland against the incautious use of this esculent. *Colporteurs*, it seems, are in the habit of selling it to unwary innkeepers who, particularly in the more Alpine districts, are not sufficiently skilled to make the necessary distinction between the dangerous and the innocuous varieties. A very grave "accident," according to the *Radical-Liberal*, was averted the other day by the opportune intervention of a connoisseur, who enlightened the cook that the mushrooms he was preparing for the *table d'hôte* were the most poisonous of their species. The *Journal de Genève*, commenting on the incident, says that, at least in Geneva, the *colportage* of mushrooms is severely prohibited, and that the Rue de Commerce is the only quarter of the city where their sale is allowed. There no mushroom can be offered to the purchaser which has not previously passed the inspection of M. Perret-Gentil, the civic expert. The father of this officer was a distinguished student of cryptogamic botany, and the introducer of many much-prized kinds of mushrooms into Switzerland, and left behind him an elaborate series of coloured plates by which the edible and the non-edible varieties can be distinguished infallibly. M. Perret-Gentil fils inherits his father's knowledge, and, adds the *Journal de Genève*, is steadily adding to it. He recently delivered before the Horticultural Society of Geneva a lecture on the mushroom as food, which for the safety of the consumer in outlying Switzerland will, we hope, convey the much-needed discrimination beyond the special public it addressed.

Mr. Dav'd Gardner, M.B.—It is right to give particulars when they are required by the patient, and in a legal process they are properly required. Our correspondent's charges are very reasonable.

Dr. Ruata (Degagna).—We regret that we cannot at present extend our exchange list.

"PHYSICIANS' FEES."

To the Editors of THE LANCET.

SIRS,—An annotation in your issue of to-day in reference to medical fees suggests that there are other things in the profession of medicine which require seeing into besides giving to every member of the profession the unmeaning letters "M.D."

May I suggest through your columns that it would be more in consonance with the functions and dignity of the Royal College of Physicians of London, as also the Royal College of Surgeons of London, if they would form themselves into a body controlling and directing members of the medical profession in their life's work, rather than endeavouring to compete with minor and differing institutions, such as educating universities and schools of medicine. The profession of medicine is, in my opinion, in great want of a ruling body, and why should not the Colleges concern themselves in this matter? I should like to see the Colleges have the right of direct appointment of physician and surgeon respectively to the various hospitals; and in those hospitals where the committee would not grant this right to the Colleges, I should like the Colleges to be by law granted the power of refusing any candidate so elected by the committee the right of taking such an appointment, unless he be in the eyes of the Colleges "a fit and proper person to be appointed," so that every member of the profession, when once appointed physician, assistant physician, surgeon, or assistant surgeon, should be under the control of their respective Colleges. This would, I think give a much better standing to members of the medical profession; for I can conceive of nothing more derogatory to a profession than that its members should not be under the control of, or obligation to, any constituted ruling body, but merely the servant of a self-elected committee of a hospital, and in many instances the servant of a secretary. It would also be of much advantage to members of the profession, as also to the public, if the combined Colleges fixed the fees of their respective fellows, members, and licentiates.

I am, Sirs, your obedient servant,

Aug. 25th, 1888. SPINOZA.

Cornice fausta should refer to the Students' Number of THE LANCET for particulars. (*a*) Apply to the Director-General of the Army Medical Service, 2, Victoria-st., Westminster, S.W.; (*b*) to the Director-General of the Naval Medical Service, Northumberland-avenue; (*c*) to the Military Secretary, India Office. No book will furnish information such as that mentioned.

Constant Reader and Subscriber (Dublin) will find the address given in the article mentioned.

One who has seen better days.—Kimpton, Wardour-street, Soho, W.

MEDICAL PRACTICE IN QUEENSLAND.

To the Editors of THE LANCET.

SIRS,—I should feel greatly obliged if any of your correspondents would, through the columns of THE LANCET, give me any information as to the demand for medical men in Queensland, rate of fees, &c., and whether there would be a reasonable prospect of a doubly-qualified man doing well there.

I am, Sirs, yours obediently,

August 24th, 1888. M.R.C.S. 1881.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Hunter, Cambridge; Dr. R. Neale, London; Dr. Ruata, Degagna; Dr. E. B. Truman, Nottingham; Sir E. Lechmere, London; Professor Walley; Dr. Finlay, Havana; Miss H. E. Brown, Buxton; Messrs. Jesurum and Co., Venice; Dr. J. M. MacCormac, Belfast; Messrs. Rowntree and Co.; Dr. Prowse, Clifton; Mr. E. Fraser, Consett; Messrs. Wood and Co., New York; Dr. Hayward, Liverpool; Messrs. Oetzmann and Co., London; Dr. Macdougall, Carlisle; Mr. Kane, Dublin; Mr. J. Exley, Hunslet; Mr. Ellis, Gloucester; Dr. C. F. K. Murray, Capetown; Mr. F. N. Williams, Brentford; Mr. Jackson, Sheffield; Mr. J. Munday, Bombay; Mr. W. H. Kesteven, Holloway; Mr. Duncan, Newcastle; Dr. H. Campbell, London; Mr. Wood, Leeds; Mr. Bellamy, London; Messrs. Livingstone, Edinburgh; Mr. Macadam, Edinburgh; Mr. Phillips, Egham; Dr. Skerritt, Bristol; Mr. Pearson; Mr. Stone, Newport; Mr. Alcan, Paris; Mr. Slater, Sheffield; Messrs. Rayner and Cassell, London; Dr. Gardner, Paisley; Dr. Anvade; Dr. H. W. Mackintosh, Dublin; Dr. Peregrine, London; Dr. Whittington-Lowe, Brighton; Mr. C. Truax, London; Dr. Davies, Snainton; Dr. F. A. A. Smith, Cheltenham; Mr. Collinette, Silverdale; Mr. W. S. Harrison, Sunderland; Dr. De Valcourt, Cannes; Mr. Flather, Cambridge; Mr. Lucy; H.D.Lond., London; Solent, London; L.S.A., L.R.C.P.; Sergeant, M.S.; M.R.C.S. 1881; Poylast; M. O'S; Victoria Home for Nurses; Sanitas; Spinoza; Ed. K.; M., Haverstock-hill; Lady Superintendent, Northampton; Lecturer, London; Enquirer; Cornice faustâ; Nurses' Home, Sheffield; X. Y. Z.; Amicus; Ophthalmic Surgeon; W. A., London; T. F. H. S.

LETTERS, *each with enclosure*, are also acknowledged from—Dr. Harding, Whittlesea; Mr. Grant, Cheshire; Miss Bell, Cheshire; Messrs. Giles and Co., Clifton; Mr. Bannatyne, Dorchester; Messrs. Richards and Co., London; Mr. St. Dalmas, Leicester; Mr. Wells, Barnard Castle; Mr. Laing, London; Mr. Kerr, Glasgow; Messrs. Cassell and Co., London; Mrs. Smith, Liverpool; Mr. Taylor, Yorks; Mr. Motion, Glasgow; Mr. Graham, Exeter; Mr. Moring, London; Mr. Lawson, London; Mr. Allan, Liverpool; Mr. Nicholls, Hartest; Mr. Breen, co. Cavan; Messrs. Grace, Bristol; Dr. Macdonald; Mr. Weymouth, London; Dr. Wright, Southsea; Mr. Lee, Leeds; Messrs. Roberts and Co., London; Mr. Duncan, Newcastle-on-Tyne; Mr. Edwards, Matlock Bank; Mr. Adams; Mr. Carmont, Dumfries; Mr. Stenhouse, Glasgow; Mr. Heywood, Manchester; Mr. Darby, Antrim; Mr. Tomkins, Bournemouth; Mr. Parker, Bristol; Mr. Royle, Guernsey; Mr. Newton, Liverpool; Mr. Kelvin, Manchester; Miss Dibben, Bournemouth; Edwards, London; Medicus, Birmingham; W., Leicester; Dewsbury and District Infirmary; P. W. S., Maidstone; B. M. T.; Worcester General Infirmary; Midwife, London; India, London; E. M.; J. K., London; Sister, London; B., Blackburn; Veritas, London; Delta, London; Durham, London; Dr. S., London; Epsomian; X. Y. Z., London; Hakim, London; Matron, Canterbury; M R.C.S., London; Housekeeper, London; C. J. S., London; Chirurgus, London; Galen, London; Pathology, London; S. S., London; D. M., London; H. L., London; P., Sheerness; M.B., London; A. D. T., London; M. B. J., London; Epitome, London; R. S. V., London; Yorkshire, London; Box 14, Uttoxeter; W. B. B., London; A. B., Bristol.

Hastings and St. Leonards Observer, Indicator and West London News, Herald and Weekly Free Press, Surrey Advertiser, Gravesend and Dartford Reporter, Windsor and Eton Express, Hertfordshire Mercury, Thanet Chronicle, Reading Mercury, &c., have been received.

Medical Diary for the ensuing Week.

Monday, September 3.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10.30 A.M., and each day at the same hour.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.

CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.

Tuesday, September 4.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.

CANCER HOSPITAL, BROMPTON.—Operations, 2.30 P.M.; Saturday, 2.30 P.M.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 2.30 P.M.

ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M.

Wednesday, September 5.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.

ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.

LONDON HOSPITAL.—Operations, 2 P.M.; Thursday & Saturday, same hour.

GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Saturday, 2 P.M. Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.

ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.

KING'S COLLEGE HOSPITAL.—Operations, 3 to 4 P.M.; Friday, 2 P.M.; Saturday, 1 P.M.

CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9 A.M. Saturday, same hour.

Thursday, September 6.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Ophthalmic Operations, Friday, 1.30 P.M.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

Friday, September 7.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, September 8.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.

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